

Examining Profitability: Through The Lens of Board Age Diversity in Indonesian Manufacturing Firms

Florence Melvin Tewel¹, R. Rusliyawati², Syarif M. Helmi³

^{1,2,3} Department of Accounting, Faculty of Economics and Business, Universitas Tanjungpura, Pontianak, Indonesia.
Email: b1034221043@student.untan.ac.id¹, rusliyawati@ekonomi.untan.ac.id², syarif.m.helmi@ekonomi.untan.ac.id³

ARTICLE HISTORY

Received: July 10, 2025

Revised: August 11, 2025

Accepted: September 13, 2025

DOI

<https://doi.org/10.52970/grar.v6i1.1542>

ABSTRACT

Further insight into the impact of company size, tax planning, and leverage towards profitability through the perspective of board age diversity. Manufacturing companies of various sub-sectors that earn positive income listed on the Indonesia Stock Exchange as per the year under research are the population used. The number of companies used as samples in this study was 23, with three years of observation (2022-2024). The study uses secondary data from their companies' official websites and the Indonesian Stock Exchange. It uses a quantitative method that uses panel data regression analysis and will conduct the Chow and Hausman tests to determine the regression analysis processed with the Eviews 12 application. The research results state that company size positively affects profitability. In line with that, tax planning has a positive effect on profitability as well. Meanwhile, leverage has a negative influence on profitability. It was also found that board age diversity moderates the correlation of company size and tax planning on profitability, so any decision-making process leads to increased profitability. However, board age diversity cannot moderate the relationship between leverage and profitability.

Keywords: Profitability, Company Size, Tax Planning, Leverage, Board Age Diversity.

JEL Code: L25, H25, G32, J24.

I. Introduction

At what age did you realize that every aspect of our lives is related to economics? We naturally work to fulfill our needs and use the money we earn to buy items at the market. In economics, there is a term called efficiency, which means that the goal can be achieved using minimal resources but can provide maximum results. The business goal, namely profit, which in this case will be discussed, is a measure of the success of a business and has a significant role in many aspects for a business to sustain itself. In accounting, there is an existing ratio to measure the company's financial performance, generated from the company's profit, namely, profitability. An illustrative representation of the companies' existing ability to achieve income in a given period can be illustrated through this measurement. The return on assets metric is measured by dividing the company's net profit by the average total assets.



Fundamentally, corporate governance is the framework that governs how businesses are run and monitored, especially for the benefit of stakeholders such as creditors, shareholders, employees, regulators, and the general public. Transparency, equity, accountability, and performance optimization are all guaranteed by sound company governance. Therefore, financial decision-making, board composition, tax behavior, and business performance are all areas where governance studies frequently overlap. Profitability is a crucial sign of how well corporate governance systems are working. Effective governance practices help businesses allocate resources, make strategic decisions, and manage risk more effectively, boosting profitability. On the other hand, companies with inadequate governance frameworks can be more vulnerable to agency disputes, management entrenchment, or inefficiencies, all of which could reduce revenues. Profitability is thus an indicator of good governance as well as a result of it. In fact, talking about assets is not only a means of earning profits. However, it can also be an influence on the size of a company, as stated by Brigham and Houston (2006), that company size is a measure of the size by which companies can be categorized in several ways, depending on the size of their revenues, as well as assets and equity. Company size is categorized into three types, namely large, medium, and small firms. Every company will try as much as possible to achieve its goals, so management works hard to achieve them because management performance is evaluated based on the amount of income gained. Rajab et al., (2022) The more strongly it performs for the company's management, the more income will be earned. Consistent with the research findings obtained in the related research of Syabina et al., (2024) This indicates that company size positively affects earnings.

Every company expects its business to grow into a significant and going concern company to increase its profits. Indonesia is a country of law with various regulations in every aspect of life. One of them is about taxes, which, based on the Law on General Provisions and Tax Procedures (KUP Law), has the understanding that tax is an obligatory allocation to the government for those persons or institutions that are subject to force according to the law, without specific reward, and is utilized for state use for the best well-being of society. Unfortunately, tax revenue experienced a drastic decline of 41.86 percent on an annual basis, only reaching IDR 88.89 trillion as of January 2025, down 34.48 percent compared to January 2024 (www.kompas.id) This decline will significantly impact the Indonesian economy, considering that taxes are the principal source of government revenue, contributing more than 70% of state revenue. Tax payments will be calculated based on profits earned per applicable regulations. The greater the profit, the greater the tax imposed on the company. Companies with good profitability conditions should have the ability to pay their tax obligations, as stated by Ayem and Setyadi (2019). Research by Iriyadi et al., (2020) Supports that tax planning can affect company profitability. The statement of Jafar and Diana (2020) Tax is considered a charge that would decrease the company's profit and reduce the amount of net income. Not infrequently, companies carry out earnings management by minimizing the nominal profit to reduce the tax burden, as stated in the research of (Wibisono et al., 2022).

Beyond that, debt management is one of the most common methods companies use to build and expand a company. Debt, which may have a negative connotation in everyday life, can help companies achieve high profitability if managed wisely. Putra and Badjra (2015) Argued that using a loan to fund the entity's financial operations can benefit the company, but if the company does not pay attention to a high proportion of leverage, it can lead to a decrease in profitability because the accumulated debt leads to a fixed interest expense. Careful consideration is needed in running debt. Putranto (2019) Stated that debt utilization causes company profitability to increase. Debt is needed to help finance a large part of a company's activities, and the company can manage its debts. Even though enhancing corporate financial performance is becoming increasingly important, many businesses still struggle to maintain or grow profitability in the face of market competition, regulatory changes, and economic uncertainty. Several internal factors, such as capital structure, tax planning techniques, and firm size, affect profitability, a crucial measure of financial health. However, the fact that these elements' effects on profitability vary from company to company raises the possibility of moderating factors like board composition.

The literature's lack of consistency on the relationship between company size (X1) and profitability is one major problem. Larger companies may experience organizational inefficiencies in addition to the

potential benefits of economies of scale. Similarly, tax planning (X2) can increase profit margins and lower corporate tax obligations. However, aggressive tax methods can put businesses at risk of legal issues and harm their reputation. The use of debt finance, or leverage (X3), has also had conflicting results, either as a cause of financial trouble or as an instrument for expansion. To obtain benefits that can influence company size, tax planning, and leverage, an experienced and competent board of directors is required. This decision-making is closely related to the management carried out by the company to manage assets that can increase operating profit, but still in the context of good corporate governance. (2020), Hosny and Elgharbawy (2021), and Juniarti and Jie (2024) explain that better economic outcomes are associated with companies that have diverse boards of directors. Scoot (2015). The relationship between management age and company or organizational accomplishment is also of interest in organizational research. Some studies show that age diversity in management can positively influence the results of the company's operation. Aida (2021), I conclude that work experience positively and significantly impacts audit judgment because the more experienced an auditor is, the greater their ability to solve existing problems. Work experience can be gained from the time worked, with age being one of the determinants of an experienced worker.

A new dimension to the analysis is introduced by presenting board diversity as a moderating variable. In contrast to other previous studies that generally separate the structural aspects of the firm from the social characteristics of the company's board of directors, this research combines the two to gain a more comprehensive understanding. Age diversity in the board of directors is considered to reflect diverse experiences, knowledge, and strategic approaches in decision-making, as the presence of management members from different age groups may create a diversity of experiences, knowledge, and different perspectives in dealing with business challenges and opportunities, suggesting that younger decision-makers are probably more likely to embrace risk and emphasize quick results.

The crucial problem of comprehending the elements that affect corporate profitability, a crucial gauge of business success and sustainability, is tackled in this study. There is much uncertainty about the combined effects of leverage, tax planning, and firm size on profitability despite a wealth of studies on financial factors. Furthermore, the moderating influence of board characteristics, in particular, the age diversity of the board in forming these associations, has frequently been disregarded in earlier research. Thus, this study has four primary goals: first, to assess how company size, tax planning, and leverage directly affect each other; second, to investigate how board age diversity moderates these relationships; third, to present empirical data that combines governance and financial considerations; and fourth, to provide insights that can direct corporate strategies meant to enhance firm performance. This study intends to contribute to a more thorough knowledge of the factors influencing profitability in contemporary organizations by precisely describing these issues and goals.

II. Literature Review and Hypothesis Development

2.1. Agency Theory

A theory defines the connection between company owners and managers responsible for making decisions. The diversity of the board of directors of commissioners plays a role in minimizing agency problems, because the variety of viewpoints can reduce the possibility of conflict between managers and shareholders. Jensen and Meckling (1976) Disclose that a diversity of board members can help reduce problems caused by differences in interests between management and shareholders, as there are many sources of creativity and ideas for solving problems and making decisions. Thus, board diversity can help make the right decisions to increase profitability.

2.2. Signal Theory

Signal theory explains that the owner of the information, which is the company, will provide signals regarding the company's condition to the recipient (investor). According to Brigham and Houston (2006),

Signal theory explains management's perception of the company's future growth. This theory relates to the ability of management to provide positive or negative signals to increase assets obtained from investors, which impacts company profits.

2.3. Company Size on Profitability

Brigham and Houston (2006) The Stated company size is a quantification of the size of a company, which is indicated or estimated from its total assets, total sales, total income, tax burden, and others. Research by Wijaya et al., (2022) Discovered that company size affects profitability. Company size represents company assets, which have a positive relationship with profitability. In other studies, company size can actually reduce company profits, Andreani and Liliani in Pangalila (2020) Because the greater the company's size, the more extensive the company's operating process will become, which is an expense that reduces profits. Similar results were also reported by Ar et al., (2025) Namely, that company size influences profitability. In this study, the parameters used in calculating company size are the LN (Natural Logarithm) of total assets.(Brigham, Eugene F., 2006)

2.4. Tax Planning on Profitability

Companies with good profitability conditions can pay their tax obligations. In addition, a company with good profitability can manage assets that generate profits well. So that the profit can be allocated very well. However, research carried out by Jafar & Diana (2020) Summarized profitability has a negative but insignificant effect on the Effective Tax Rate (ETR), which can be a ratio in research on tax planning. In addition, an increase in profitability does not represent an increase in the use of assets to generate profits because the increase in net income comes from financial income that is not an operational activity, such as interest, dividends, or other income that is not derived from the company's core operational activities, which are generally subject to final tax, as stated by (Jafar & Diana, 2020). This is inconsistent with the research results from Damayanti and Gazali (2019) This states that profitability has a more significant influence on the Effective Tax Rate (ETR).

2.5. Leverage on Profitability

In maximizing the business running process, companies use loans for company capital, such as purchasing equipment, inventory, or other assets that can help generate profits. However, if not used with good planning and paying attention to many aspects, this condition can backfire on the company if there is a delay in paying the loan or if there is no clear disclosure regarding the allocation of funds. To measure and know its efficiency, the leverage ratio can be calculated by determining the extent to which the company is willing to fulfill its liabilities in the amount of debt to capital owned by the company. According to Brigham and Houston (2006) Using leverage can enhance projected income since the company's assets are utilized to maximize income. In line with the findings of Sari and Dwirandra (2019), which states that allocating debt as corporate funding can offer advantages in reducing interest expense and calculating tangible income that can reduce the company's tax expense. Therefore, it argues that leverage increases the company's profitability by earning greater profits and reducing its tax burden. However, the results of research from Ayoush et al., (2021) Contrary to these two findings, leverage as quantified by the debt ratio and debt-to-equity ratio has a negative impact that is statistically significant at the 1% significance level on profitability.

2.6. Board Age Diversity Effect on Company Size and Profitability

Company size determines how many assets are owned to generate profits as efficiently as possible. To achieve this efficiency, great attention is required when carrying out the company's economic activities.

Freeman (1984) states that the board of directors has a significant share in this because it aims to formulate policies to guide achieving long-term goals. In addition, the board of directors is responsible for ensuring that the company manages its assets appropriately. The age diversity of the board of directors is considered capable of providing varied opinions and ideas from many backgrounds of experience and thought, to minimize errors in decision-making.

2.7. Board Age Diversity Effect on Tax Planning and Profitability

Tax planning is a feature of tax management that determines the appropriate taxes to be paid and what can be done to minimize the amount of tax that will be paid and reduce the tax burden ethically. Careful tax planning will result in benefits for taxpayers. Tax planning benefits taxpayers by saving cash out, which is a burden for the company, and regulates cash flow so that it can estimate cash requirements for taxes and determine the timing of payments to manage cash accurately. (Mardiasmo, 2016). A board of directors is needed to carry out this planning because it will be responsible for the decisions made. The age diversity of the board of directors is believed to be able to organize strategies well by looking at it from many points of view.

2.8. Board Age Diversity Effect on Leverage and Profitability

Debt must be projected wisely so as not to backfire on the company. The board of directors needs a good understanding of and experience projecting debt. The age diversity of the board of directors is believed to produce reasonable projections because they will provide input to manage debt according to their respective experiences. So far, no research has been found that explicitly reveals that the age diversity of the board of directors can affect debt management, which is why this research was conducted. Research by Winantisan et al., (2024) Stated that partial age diversity plays a substantial role in financial performance.

Therefore, based on this relationship, the hypothesis proposed in this study is as follows:

- H1: Company size has a positive effect on profitability.
- H2: Tax planning has a positive effect on profitability.
- H3: Leverage has a positive effect on profitability.
- H4: Board age diversity moderates the relationship between company size and profitability.
- H5: Board age diversity moderates the relationship between tax planning and profitability.
- H6: Board age diversity moderates the relationship between leverage and profitability.

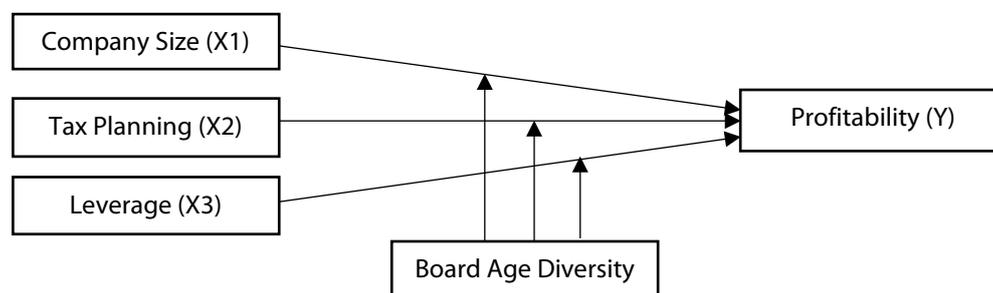


Figure 1. Conceptual Framework

III. Research Method

This study uses a quantitative approach and secondary data from company annual reports. Manufacturing companies listed on the Indonesia Stock Exchange (IDX) are the population of this research.

Company reports are accessed from www.bei and the company's official website. The 2022–2024 period was chosen because it reflects the current and stable conditions after the COVID-19 pandemic, during which most companies have made strategic and operational adjustments to the impact of the pandemic. Furthermore, 2022–2024 data is relatively complete and available from various public sources such as annual reports, audited financial statements, www.bei's website, and the company's official website, ensuring the reliability of the data obtained. This study uses manufacturing companies because the manufacturing industry is the largest industry on the IDX, and disclosure in the manufacturing industry will be more comprehensive. This research uses a purposive sampling method with the criteria presented in Table 1:

Table 1. Criteria for Research Sample

Sample Criteria	Number of Companies	Number of Samples
Manufacturing companies listed on the IDX before 2022	196	558
Companies that have reported positive net income during 2022 - 2024 that have been audited	31	93
Companies that have board age diversity	23	69

Table 2. Operational Definition and Measurement of Variables

Variable	Variable Definition	Variable Measurement	Source
Profitability (Y)	Profitability ratio reflects the ability of the company to generate profit during the period.	$ROA = \text{Profit of The Year} / \text{Total Assets}$	(Rivandi and Putra, 2021)
Company Size (X1)	The size of a company is indicated or measured by its total assets, sales, profit, tax burden, and other factors.	$\text{Size} = \ln(\text{Total Assets})$	(Brigham and Houston, 2006)
Tax Planning (X2)	The tax rate is calculated to determine the amount of tax liability the company bears, which is obtained by dividing the income tax expense by profit before tax.	$ETR = \text{Income Tax Expense} / \text{Earnings Before Tax}$	(Chukwudi et al., 2020)
Leverage (X3)	The ratio between the total debt and equity of the company is used as business funding.	$DER = \text{Total Liabilities} / \text{Total Equity}$	(Supriati, 2018)
Board Age Diversity (Z)	Divided into two categories: aged below 50 years old and aged above 50 years old.	$D = 1 - \frac{\sum(n_i(n_i - 1))}{N(N - 1)}$	(Simpson's Diversity Index 1949)

This analysis uses panel data regression analysis by testing descriptive literature and the appropriate model selection through the Chow, Hausman, and Lagrange Multiplier Test. Chow test to determine whether the suitable regression model is FEM or CEM. If the test result is > 0.05 , then CEM is chosen. However, if the test result is < 0.05 , the FEM is selected. The Hausman effect is applied to decide whether the appropriate regression model is FEM or REM. The REM model is selected if the test result is > 0.05 . However, if the test result is < 0.05 , then the FEM model is selected. Lagrange Multiplier (LM) test to determine whether the appropriate regression model is CEM or REM. If the LM value > 0.05 , the right model is CEM, but if the LM value < 0.05 , the correct model is REM—related research cited by (2024). According to Gujarati, the panel data technique is an

approach that combines cross-sectional data and time series data. So there is no need to do a normality test or other classical tests, and focus on choosing the right model for analyzing panel data.

IV. Results and Discussion

4.1. Statistical Result

Table 3. Results of Descriptive Analysis Test

	Y	X1	X2	X3	Z
Mean	12.05679	15.34812	26.68813	72.03190	0.250879
Median	10.31885	15.61728	21.75751	45.40907	0.320000
Maximum	33.19433	17.23061	314.4042	646.5892	0.500000
Minimum	0.259668	12.00816	12.30635	10.85422	0.000000
Std. Dev.	7.899914	1.154713	35.51437	97.19840	0.205605

Descriptive statistics present a summary of the data by examining the mean value, the standard deviation, the minimum, and the maximum values. From the descriptive analysis test results for Y, the average profitability is 12.06, with a relatively high standard deviation of 7.90, indicating significant variation in profitability among companies. For X1, which is company size, the average is 15.35 on a low standard deviation (1.15), indicating that firm size is relatively consistent among the sample. For X2, the average tax planning is 26.69, but the high standard deviation (35.51) suggests a significant variation, with some firms having very high tax planning values, with the maximum value at 314.40. For X3, the average leverage is 72.03, but the high standard deviation of 97.20 indicates that there are companies with very high leverage, which can be a risk to profitability. The moderating has a mean of 0.25, which suggests a moderate variation in standard deviation. The maximum value of 0.50 indicates that companies with higher age diversity present analysis results from data, hypothesis tests, answers to research questions, and findings and interpretations.

Table 4. Result of Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	47.354456	(22,43)	0.0000
Cross-section Chi-square	222.728480	22	0.0000

As a result of the Chow test conducted, the probability level is below 0.05, which is 0.0000 due to differences in characteristics between companies that affect the dependent variable. This represents that FEM is the right model.

Table 5. Result of the Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.691491	3	0.0013

Based on the results of the Hausman Test conducted, it can be seen that the probability value is below 0.05, which is 0.0013. This shows there is a correlation between individual effects and independent variables; thus, the FEM model is more appropriate because it avoids biased estimation. Because it has been found that FEM is the right model, there is no need to do the LM Test. For panel data regression, a few fundamental presumptions must be met to produce accurate and reliable findings. These include the presumptions that the error terms are uncorrelated across entities and time (no cross-sectional dependence or serial correlation) and that the relationship between variables is linear. Additionally, the model definition is believed to describe the individual impacts, either fixed or random, accurately. By adjusting for time-invariant attributes, the Fixed Effect Model (FEM) is used in this study to account for unobserved heterogeneity across entities and guarantee that the calculated connections accurately reflect changes over time within the entities.

Table 6. Hypothesis Test Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-35.91648	45.13969	-0.795674	0.4307
X1	3.220988	2.943446	1.094292	0.2801
X2	0.005941	0.008786	0.676253	0.5026
X3	-0.028719	0.007797	-3.683270	0.0007
Z	1.782891	2.535044	0.703298	0.4858

R-squared	0.966842	Mean dependent var	12.05679
Adjusted R-squared	0.946316	S.D. dependent var	7.899914
S.E. of regression	1.830402	Akaike info criterion	4.333120
Sum squared resid	140.7157	Schwarz criterion	5.207336
Log likelihood	-122.4927	Hannan-Quinn criterion.	4.679951
F-statistic	47.10236	Durbin-Watson stat	3.002142
Prob(F-statistic)	0.000000		

$$Y = -35.916479278 + 3.22098794056 * X1 + 0.0059412882483 * X2 - 0.0287189764491 * X3 + 1.7828912721 * Z$$

The panel data regression results in Table 6 show that if X1 increases by one unit, profits Y are expected to increase by 3.22, assuming that other variables are constant. This shows that the bigger the company size, the greater the profitability, because large companies have more resources and potential to generate profits. If tax planning (X2) increases by one unit, profitability (Y) will increase by 0.0059, assuming that other variables are constant. Although the effect is small, a better tax planning strategy can slightly improve a company's profitability, perhaps due to tax cost savings or more efficient planning. If Leverage (X3) increases by one unit, Profitability (Y) is expected to decrease by 0.0287, assuming all preceding variables remain constant. Indicating that higher debt usage can decrease profitability. Because it can lead to higher interest costs and greater financial risks associated with debt, when board age diversity (Z) increases by one unit, profitability (Y) is expected to increase by 1.78, assuming other variables remain constant. Indicates that board age diversity can have a positive influence on company profitability. Age diversity leads to broader perspectives and more experience, which can help with better decision-making. In the following analysis, the F-statistic value is 47.10236 Prob. 0.000000 > 0.05, meaning that simultaneously variable X significantly affects variable Y. The result of the Adjusted R-Squared value of 0.946316 means that the ability of variable X to explain variable Y is 94.6%. At the same time, the remaining 5.4% is influenced by other variables outside the study.

Table 7. Hypothesis Test Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.941743	43.00209	0.138173	0.8908
X1	1.751018	2.727794	0.641917	0.5247
X2	-0.876795	0.271061	-3.234679	0.0025
X3	-0.018965	0.021487	-0.882608	0.3829
Z	-106.1895	41.65822	-2.549066	0.0148
X1Z	4.399038	2.461797	1.786921	0.0817
X2Z	1.835382	0.565478	3.245721	0.0024
X3Z	-0.027781	0.064530	-0.430510	0.6692

R-squared	0.974855	Mean dependent var	12.05679
Adjusted R-squared	0.956158	S.D. dependent var	7.899914
S.E. of regression	1.654119	Akaike info criterion	4.143434
Sum squared resid	106.7083	Schwarz criterion	5.114785
Log likelihood	-112.9485	Hannan-Quinn criterion.	4.528802

F-statistic	52.13897	Durbin-Watson stat	3.200566
Prob(F-statistic)	0.000000		

$$Y = 5.94174306548 + 1.75101825701 * X1 - 0.876795019278 * X2 - 0.0189647516732 * X3 - 106.189548451 * Z + 4.39903761864 * XIZ + 1.83538217891 * X2Z - 0.027780865177 * X3Z$$

A panel data regression equation shows that each one-unit increase in engagement of Company Size (X1) and Board Age Diversity (Z) will increase Profitability (Y) by 4.3990. It is concluded that company size and board age diversity support each other in increasing profitability. In addition, each one-unit increase in engagement of Tax Planning (X2) and Board Age Diversity (Z) will increase Profitability (Y) by 1.8354. This indicates that better tax planning and board age diversity can slightly increase profitability for the interaction between leverage and board age diversity. Each one unit increase in the interaction of Leverage (X3) and Board Age Diversity (Z) will reduce Profitability (Y) by 0.0278, indicating that the combination of high leverage with board age diversity tends to reduce profitability. Then the F-statistic value analysis shows 52.13897 Prob. 0.000000 > 0.05, meaning that simultaneously variable X with variable Z moderation significantly affects variable Y. The result of the Adjusted R-Squared value of 0.956158 means that the ability of variable X to explain variable Y, which variable Z moderates, is 95.6%. The rest, 4.4%, is affected by another variable beyond the study.

The study's findings emphasize several significant connections that have significant ramifications for business operations. Leverage, tax planning, and company size all benefit profitability, confirming that financial management choices continue to be crucial to business success. The moderating effect of board age diversity adds a crucial governance dimension, which implies that diverse boards can improve the efficacy of specific financial measures. This conclusion highlights the practical significance of board composition in guiding corporate outcomes. Businesses with boards of various ages may gain from a mix of expertise and creative thinking, which enhances the caliber of supervision and decision-making. Therefore, board diversity should be considered a strategic advantage to encourage improved financial performance rather than merely a compliance concern.

4.2. Discussion

4.2.1. Company Size and Profitability

The statistical test results show that X1 has a positive but insignificant effect on Y. This is proven by the t-statistic 1.094292 with Prob. 0.2801 > 0.05, so it can be concluded that H1 is accepted. These results are in line with the findings of Wijaya et al., (2022) It is stated that company size, as measured by the amount of total assets, has a positive effect on profitability, because adequate and high assets can increase profitability. These results contradict the findings of Nugraha et al., (2021) This suggests that company size cannot guarantee increased profitability because companies may be unable to maximize their assets.

4.2.2. Tax Planning and Profitability

The result shows that the statistical test of T, X2 has a positive but insignificant effect on Y. This is evidenced by the t-statistic 0.676253 with Prob. 0.5026 > 0.05, so it can be concluded that H2 is accepted. These results align with research done by Damayanti and Gazali (2019). This states that profitability significantly affects the Effective Tax Rate (ETR).

4.2.3. Leverage and Profitability

The T statistical test results analysis shows that X3 has a significant adverse effect on Y. This is evidenced by the t-statistic -3.683270 with Prob. 0.0007 > 0.05, so it can be concluded that H3 is rejected. This

outcome is in line with (2021). A study found that leverage has a negative and statistically reliable impact on profitability because it can make companies dependent on debt, reducing profitability.

4.2.4. Board Age Diversity as the Moderating Variable between Company Size and Profitability

The results of the T statistical test show that X1, moderated by Z, has a positive but insignificant effect on Y. This is evidenced by the t-statistic 1.786921 with Prob. 0.0817 > 0.05 so that it can be inferred that H4 is recognized with support for existing theories, namely age diversity which is used to assess more variation in terms of cognition, information and values, because young managers may have different information, experience, and perspectives compared to senior managers in formulating company provisions on strategic issues, quoted from Saerang et al. (2018) in Kurniawati and Henny (2020). Based on the Upper Echelon Theory developed by Hambrick and Mason (1984) The company's performance results from the decision strategies made by top management. In this context, Taufiq (2020) Argues that age can influence top management's actions and values because of age diversity, as relatively young managers tend to be open to new ideas and behaviors. At the same time, older executives are more likely to have a strong psychological attachment to the company's status quo and give priority to their career stability.

4.2.5. Board Age Diversity as the Moderating Variable between Tax Planning and Profitability

In accordance with the results of the T statistical test, it shows that X2, which Z moderates, has a positive and significant effect on Y. This is evidenced by the t-statistic 3.245721 with Prob. 0.0024 > 0.05, so it can be concluded that H5 is accepted. Research results in line with research conducted by (2024) show that older board members may have experience dealing with financial crises and risk management, while younger members can assist in identifying new risks and responding quickly. Also, Ramaiyanti et al. (2023). This suggests that board members positively influence company performance because senior board representatives tend to have more expertise and are more cautious in their decisions. Instead, they make decisions based on their experience and can collaborate with junior board directors. Supported by research carried out by Kim and Lim (2010) I found a positive influence between age and company performance because, with a high level of age, there is a balance between the caution and experience possessed by the older generation and the innovation possessed by the younger generation. So it can be said that the collaboration of diverse board ages can produce good tax planning.

4.2.6. Board Age Diversity as the Moderating Variable between Leverage and Profitability

The T statistical test results show that X3, which Z moderates, has a negative and insignificant effect on Y. This is evidenced by the t-statistic -0.430510 with Prob. 0.6692 > 0.05, so it can be concluded that H6 is rejected. This is consistent with findings put forward by Gustiana et al., (2021) This states that age diversity of the board of directors has a negative and significant effect on company performance. In line with research performed by Anjani (2019) It was found that it does not correlate well because what can affect company performance is good monitoring. Similar to research carried out by Kurnia and Wagusuwardi (2023) The diversity of the board of directors is not a determining factor for a policy taken, because the loyal board of directors must have professionalism and responsibility regardless of their background.

V. Conclusion

This research examines the importance of firm size, tax planning, and leverage in influencing corporate profitability, with board age diversity as a moderating variable. Firm size positively influences profitability, although it is not significant. This suggests that larger companies typically have more resources to generate profits. Tax planning also positively impacts profitability, although the small effect may indicate that a good tax strategy can benefit the company. Leverage significantly negatively impacts profitability,

suggesting that high debt can increase financial risk and reduce profits. Board age diversity positively affects profitability, with better decision-making and risk management contributions. The interactions between firm size and board age diversity, as well as tax planning and board age diversity, show the potential to increase profitability. In contrast, the interaction between leverage and board age diversity decreases profitability. The study's conclusions provide important information for business decision-makers. The study offers a valuable basis for creating financial strategies by determining how leverage, tax planning, and firm size affect profitability. Additionally, the moderating effect of board age diversity emphasizes how crucial board composition is to improving company success. Accordingly, corporate practitioners can assist more balanced strategic decisions, particularly when managing financial structure and tax efficiency, by cultivating a diverse board in terms of age. When creating performance-driven policies, businesses should consider governance characteristics in addition to internal financial measurements.

Companies are encouraged to consider the size and structure of their organizations to maximize potential profitability. Investment in resource development and efficient management can help achieve this goal. In tax planning, companies are advised to adopt better and more efficient strategies that comply with regulations and maximize net income. Companies should be cautious in using debt, ensuring that the proportion of leverage remains within safe limits to avoid excessive financial risks. Companies are encouraged to create age diversity in their board structure as it can offer a more extensive view and enhance the quality of decision-making. Further research is needed to explore the relations between board age diversity and firm performance more deeply by using samples and varying the type of industry, considering that each industry certainly has different challenges. Hence, the results obtained are more comprehensive and have stronger arguments.

References

- Aida, N. (2021). Work Experience, Obedience Pressure, and Task Complexity on Audit Judgment. *Golden Ratio of Auditing Research*, 1(2), 61–69. <https://doi.org/10.52970/grar.v1i2.51>
- Ali, F., Wang, M., Jebran, K., & Ali, S. T. (2020). Board diversity and firm efficiency: evidence from China. *Corporate Governance (Bingley)*. 21(4), 587–607. <https://doi.org/https://doi.org/10.1108/CG-10-2019-0312>
- Anjani, F. T. (2019). Pengaruh Diversitas Dewan Komisaris dan Overconfidence Terhadap Tax Avoidance (Survei Pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Tahun 2013 - 2016). *Akuntansi Dan Bisnis*, 12(9), 1689–1699.
- Ayoush, M. D., Toumeh, A. A., & Shabaneh, K. I. (2021). Liquidity, leverage, and solvency: what affects the profitability of industrial enterprises the most? *Investment Management and Financial Innovations*, 18(3), 249–259. [https://doi.org/10.21511/imfi.18\(3\).2021.22](https://doi.org/10.21511/imfi.18(3).2021.22)
- Brigham, E. F., & J. F. H. (2006). *Dasar-dasar Manajemen Keuangan*. Salemba Empat.
- Chukwudi, U. V., Okonkwo, O. T., & Asika, E. R. (2020). Effect of Tax Planning on the Firm Value of Quoted Consumer Goods Manufacturing Firms in Nigeria. *International Journal of Finance and Banking Research*, 6(1), 1. <https://doi.org/https://doi.org/10.11648/j.ijfbr.20200601.11>
- Damayanti, T., & Gazali, M. (2019). Pengaruh Capital Intensity Ratio, Leverage, Profitability, Dan Size Terhadap Effective Tax Rate Pada Perusahaan Konstruksi Dan Bangunan Yang Terdaftar Di Bei Tahun 2014-2017. *Prosiding Seminar Nasional Pakar*, 1–7. <https://doi.org/10.25105/pakar.v0i0.4244>
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Hambrick, D. C., & Mason, P. A. (1984). Upper Echelons : The Organization as a Reflection of Its Top Managers. *Academy of Management Review*, 9(2), 193–206. <https://doi.org/https://doi.org/10.2307/258434>
- Iriyadi, I., Tartilla, N., & Gusdiani, R. (2020). The Effect of Tax Planning and Use of Assets on Profitability with Good Corporate Governance as a Moderating Variable. *143(Isbest, 2019)*, 220–227. <https://doi.org/10.2991/aebmr.k.200522.043>

- Jafar, S. R., & Diana, P. (2020). Agresivitas Pajak Berdasarkan Ukuran Perusahaan, Pendanaan Aset dan Komposisi Aset serta Profitabilitas. *ULTIMA Accounting*, 12(2), 194–213.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4). <https://doi.org/10.2139/ssrn.94043>
- Juniarti, & Jie, F. (2024). Performance of Gender Diversity on the Board of Directors: The Case of Indonesia. *Journal of Infrastructure, Policy, and Development*, 8(4). <https://doi.org/10.1515/9783110258264.575>
- Khaled Hosny & Adel Elgharbawy. (2021). Board diversity and financial performance: empirical evidence from the United Kingdom. "Accounting Research Journal, 35(4), 561–580. <https://doi.org/10.1108/ARJ-02-2020-0037>
- Kim, H., & Lim, C. (2010). Diversity, Outside Directors and Firm Valuation: Korean Evidence. *Journal of Business Research*, 63(3), 284–291. <https://doi.org/10.1016/j.jbusres.2009.01.013>
- Kurniawati, H., & H. (2020). Pengaruh Jender, Kebangsaan, Latar Belakang Pendidikan, dan Usia Anggota Dewan terhadap Kinerja Keuangan Perusahaan.
- Lilis Gustiana, Darmayanti, Y., & Meihendri, M. (2021). Pengaruh Diversitas Dewan Komisaris dan Dewan Direksi Terhadap Kinerja Perusahaan (Studi Empiris: Perusahaan Manufaktur Di BEI Periode 2014-2018). *Jurnal Kajian Akuntansi Dan Auditing*, 16(1), 68–79. <https://doi.org/10.37301/jkaa.v16i1.40>
- Mardiasmo. (2016). Perpajakan. Edisi Revisi. CV Andi Offset.
- Nugraha, N. M., Ramadhanti, A. A., & Amaliawati, L. (2021). Inflation, Leverage, and Company Size and Their Effect on Profitability. *Journal of Applied Accounting and Taxation*, 6(1), 63–70. <https://doi.org/10.30871/jaat.v6i1.2854>
- Pangalila, J. L. M. (2020). Pengaruh Leverage Dan Ukuran Perusahaan Terhadap Profitabilitas (Studi Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia). 21(1), 1–9.
- Putra, A., & Badjra, I. (2015). Pengaruh Leverage, Pertumbuhan Penjualan Dan Ukuran Perusahaan Terhadap Profitabilitas. Pengaruh Leverage, Pertumbuhan Penjualan Dan Ukuran Perusahaan Terhadap Profitabilitas, 4(7), 2052–2067. <https://ojs.unud.ac.id/index.php/manajemen/article/view/12700>
- Putranto, P. (2019). Pengaruh Strategi Diversifikasi, Leverage, dan Inflasi Terhadap Profitabilitas Perusahaan Food & Beverage. *Jurnal Online Insan Akuntan*, 4(2), 185–198.
- Rajab, R. A., Taqiyah, A. N., Fitriyani, F., & Amalia, K. (2022). Pengaruh tax planning, tax avoidance, dan manajemen laba terhadap nilai perusahaan. *JPPJ (Jurnal Penelitian Pendidikan Indonesia)*, 8(2), 472. <https://doi.org/10.29210/020221518>
- Ramaiyanti, S., Khoiriyah, M., Zarefar, A., & Afifah, U. (2023). Pengaruh Gender dan Usia Dewan Terhadap Kinerja Keuangan. *Akuntansi Dan Manajemen*, 18(1), 150–158. <https://doi.org/10.30630/jam.v18i1.208>
- Rivandi, M., & Putra, R. J. (2021). Pengaruh Ukuran Perusahaan, Profitabilitas dan Komite Audit Terhadap Pengungkapan Corporate Social Responsibility. *Owner: Riset & Jurnal Akuntansi*, 5(2011), 513–524. <https://doi.org/10.33395/owner.v5i2.468>
- Sari, P. R. P., & Dwirandra, A. A. N. B. (2019). Pengaruh Current Ratio Dan Debt To Equity Ratio Terhadap Profitabilitas Dengan Intellectual Capital Sebagai Pemoderasi. *E-Jurnal Akuntansi*, 26(2), 851–880.
- Scout. (2015). *Financial Accounting Theory Seventh Edition*. United States: Canada Cataloguing.
- Sri ayem, A. S. (2019). Pengaruh Profitabilitas, Ukuran Perusahaan, Komite Audit dan Capital Intensity Terhadap Agresivitas Pajak (Studi Pada Perusahaan Perbankan Yang Terdaftar di BEI Periode Tahun 2013-2017). *Jurnal Akuntansi Pajak Dewantara. Jurnal Akuntansi Pajak Dewantara*, 1((2)), 228-241. <https://doi.org/10.24964/japd.v1i1.905>
- Supriati, D. (2018). Pengaruh Profitabilitas, Likuiditas, Leverage, dan Ukuran Perusahaan terhadap Price Earning Ratio pada Perusahaan Manufaktur yang Listing di Bursa Efek Indonesia. *Jurnal Akuntansi Dan Manajemen*, 14(1). <http://repository.stei.ac.id/id/eprint/2867>
- Syabina, A. K., Noviarty, H., & Helmi, S. M. (2024). Do Carbon Performance and Company Size Affect Profitability? Exploring the Moderating Role of Women Directors in Mining Companies. *IRJEMS*

- International Research Journal of Economics and Management Studies, 3(9), 367–376.
<https://doi.org/10.56472/25835238/IRJEMS-V3I9P140>
- Taufiq, M. (2020). Pengaruh Diversitas Dewan Terhadap Kinerja Keuangan (Studi pada sistem Two-Tier Emiten Sub Sektor Perbankan dan Properti & Real Estate dalam Bursa Efek Indonesia Tahun 2009 - 2018). Universitas Negeri Semarang.
- Wagisuwari, K. &. (2023). The influence of gender diversity, proportion of independent commissioners, managerial ability, and company size on tax avoidance. *Jurnal Akuntansi Aktual.*, 10(2), 114–128.
<https://doi.org/http://dx.doi.org/10.17977/um004v10i22023p114>
- Wibisono, M. S., Hasanah, N., Nasution, H., & Ulupui, I. G. K. A. (2022). Pengaruh beban pajak tangguhan, profitabilitas, dan leverage terhadap manajemen laba. *Jurnal Akuntansi dan Keuangan (JAK)*, 6(3), 2238–2256. <https://doi.org/10.31955/mea.v6i3.2446>
- Wijaya, L. I., Harjono, J. A., & Mahadwartha, P. A. (2022). Determinants of Profitability for Manufacturing Companies in Indonesia 2018-2019. *Jurnal Riset Akuntansi Dan Keuangan*, 10(2), 189–198.
<https://doi.org/10.17509/jrak.v10i2.45199>
- Winantisan, R. N. N., Tulug, J. E., Rumokoy, L. J., Richarda, O. :, Winantisan, N. N., Tulung, J. E., Rumokoy, L. J., Manajemen, J., Ekonomi, F., & Bisnis, D. (2024). Pengaruh Keberagaman Usia Dan Gender Pada Dewan Komisaris Dan Direksi Terhadap Kinerja Keuangan Perbankan Di Indonesia Periode 2018-2022. *Jurnal EMBA*, 12(1), 1–12.
- Windi Ar, B. M. S., Handajani, L., & Nurabiah, N. (2025). Analysis of The Influence of Green Accounting, Company Size, and Dividend Payout Ratio on Profitability. *Golden Ratio of Finance Management*, 5(2), 345–357.
<https://doi.org/10.52970/grfm.v5i2.1152>