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CAPITAL STRUCTURE DETERMINANTS AN EMPIRICAL INVESTIGATION OF INDONESIAN MANUFACTURING COMPANIES

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Abstract
The purpose of this study is to empirically test the determination of the existing capital structure in manufacturing companies in Indonesia. Various capital structure theories (trade-off theory, pecking order theory, agency theory, and free cash flow theory) are reviewed in order to formulate testable hypotheses about the determinants of capital structure in manufacturing firms. The research was carried out on a sample of 896 financial statements using panel data procedures. The results show that Tangibility and liquidity have a significant negative effect on leverage. Profitability and company age have no effect on leverage, while company size has a significant negative effect. This study has laid some groundwork for further investigation into the determinants of capital structure in Indonesian firms, which could be the basis for a more detailed evaluation. Furthermore, empirical findings should assist corporate executives in making the best capital structure decisions. To the best of the authors' knowledge, this is the first study that uses the most recent data to investigate the determinants of capital structure of manufacturing firms in Indonesia. Furthermore, this study appears to confirm that the same factors influence capital structure decisions in developing countries as they do in developed economies.

Keywords: Capital Structure, Size, Age

1. Introduction

Global economic growth in 2018 slowed down with uneven growth between countries. Bank Indonesia in the Indonesian Economic Report stated that the world economy grew by 3.7% in 2018, slowing down compared to growth in 2017 of 3.8%. Overall, the 2018 economic performance was lower than forecast at the beginning of the year. However, while slowing global economic growth, the momentum of Indonesia's economic recovery in 2018 continued and was largely supported by high growth in domestic demand, as well as rising consumption and investment growth. According to official statistics on Indonesia's economic growth published by the Badan Pusat Statistik (BPS) in 2019, economic growth in 2018 was recorded at 5.17%, an increase compared to the previous year's growth of 5.07% and was the highest growth since 2013. The Indonesian economy in 2018 as measured by Gross Domestic Product (GDP) shows that the Indonesian economy remains solid considering that at the same time world economic growth is in a slowing trend and global uncertainty is increasing. The magnitude of economic growth in Indonesia has become a stimulus for various companies to develop their businesses because the competition between companies will increase. Domestic demand, growing consumption, and increasing investment create great opportunities for companies to develop.

Economic developments require managers to formulate appropriate decisions about the company's capital structure because making the right decisions in the capital structure

will increase the value of the company, the choice of capital structure is also used by managers to start a business or to increase funds in new projects (Chadha & Sharma, 2015). Decision-making about capital structure is very important for increasing the value of the company but making this decision is not easy because it must measure the costs and benefits that will arise from the decision (Ahmed Sheikh & Wang, 2011). The choice of capital structure has shown differences and even contradictions (Myer, 1984), has been the subject of debate for five decades since this theory was introduced by Modigliani and Miller in 1958. (Modigliani and Miller, 1958) conducted an early study of capital structure in which they assumed that value The company will not depend on its capital structure if the capital market is in ideal conditions so that debt and capital can be completely replaced. Subsequent research introduces various conditions under the ideal by including certain problems or conditions (M'ng et al., 2017), such as Taxes, Bankruptcy Fees, Transaction Costs, Interest Fees, Information Asymmetry, this leads to the development of theory to maximize firm value by selecting a structure. capital such as trade-off theory, (Kraus & Litzenberger, 1973), Agency Theory (Jensen & Meckling, 1976), Signaling Theory (Ross, 1977), Pecking Order Theory (Myer, 1984), Cash Flow Theory (Jensen, 1986), Market timing Teory (Baker & Wurgler, 2002)(Maksimovic & Demirgüc-Kunt, 2002). These theories often show different and even contradictory results (Bayrakdaroglu et al., 2013)(Frank & Goyal, 2003)(Haron, 2014)(Mahajan & Tartaroglu, 2008)(Serrasqueiro & Caetano, 2015)(Alnori & Alqahtani, 2019)(Nguyen, 2020). Most of these theories cannot directly prove their influence on individual capital structures because these theories are interrelated with each other (Cotei & Farhat, 2011)(Leary & Roberts, 2010). Early research on the decision to choose a capital structure only focused on the level of leverage and examined the factors that influence it and most of this research was only conducted on companies in America (Titman & Wessels, 1988). This research on the capital structure has been extended to other developed countries such as Europe and Japan (Rajan & Zingales, 2003)(Serrasqueiro & Caetano, 2015)(Elmagrhi et al., 2018)(Strýčková, 2015)(Maksimovic & Demirgüc-Kunt, 2002). Each developing country has different factors in choosing its capital structure (Booth et al., 2001), although the selection of capital structure is very important research in ASEAN is still limited.

Empirical results regarding the selection of financing for capital structure still show inconsistent results, , (Kumar et al., 2017) Finding that firm size has a significant effect, in contrast to (Bandyopadhyay & Barua, 2016) which results in that firm size has an inverse relationship with leverage. . (Khémiri & Noubbigh, 2018) obtained the results that profitability has a positive influence on leverage because companies that have profits will be far from bankruptcy and can take advantage of debt with lower interest rates. On the other hand (Yildirim et al., 2018) show that profitability is inversely correlated with leverage. Since the results of empirical studies so far have not provided conclusive results, there is a need to continue to evaluate the validity of capital structure theory by re-examining the determinants of capital structure to narrow the gap between theoretical and practical explanations of finance involving capital structure (M'ng et al., 2017). Against the background of dynamic changes in the capital structure (Lemmon & Zender, 2010) and inconsistent results, the author intends to re-examine the validation of determinants of optimal capital structure such as company internal factors and macroeconomic variables.

2. Theoretical Background

2.1 Capital Structure Theories

2.1.1 The Modigliani and Miller Theory

The Modigliani and Miller Theory (1958 and 1963) focuses on the firm's financial structure and its link with the cost of money under the assumption of a perfect capital market. The first proposition suggests that if there are no taxes, bankruptcy costs, management costs, unequal knowledge, and market efficiency, the business value will not be affected by financing through issuing shares or debt, i.e. the capital structure of the organization is irrelevant to financial leverage. The alternative argument was that the firm's financial leverage has no bearing on the weighted average cost of capital (WACC). In their analysis of the tax model in Modigliani and Miller theory, Fama and French (2002) showed that the most profitable companies utilized more debt rather than equity.

2.1.2 The Agency Cost Theory

The Agency Cost Theory demonstrated that the management cost for managing institutions on behalf of their owners could result in incompetent administrations that work and choose the income and outcome based on their desires; this could result in a failure to maximize the firm's value. The impact of external costs equals the loss or drop in firm value caused by administrations that are only concerned with maximizing their private benefits rather than the firm value. Jensen and Meckling (1976), Myers (2001), and Harris and Raviv (1991) stated that selecting a useful capital structure may assist in avoiding such costs. As per the theory, increasing financial leverage or lowering the equity ratio could lower firm costs caused by external financing on the one hand, and increase firm value by encouraging administrations to work hard to maximize the firm's earnings and achieving the owners' goals of increasing earnings on the other.

Grossman and Hart (1982) found that increasing debt financing might benefit managers and cut business costs by lowering the cost of external financing, which they defined as maximizing the firm's earnings and providing the liquidity to pay the firm's liabilities on time. In addition, the corporation can negotiate low-cost loans with favorable terms. Harris and Raviv (1990) and Stulz (1985) stated that banks kept sensitive and confidential information on their clients and lending partners, as well as trying to offer government guarantees, which increased the banks' external debt costs.

2.1.3 The Trade-Off Theory

The Trade-Off Theory stated that taxes and financial leverage had a positive relationship; one of the tax aspects is the increased use of debt, which enhances the owners' earnings. As a result, the theory implies an optimal debt-to-equity ratio, and the companies attempted to strike a balance between the benefits of debt taxation and the danger of bankruptcy. According to the theory, the corporation can achieve its financial leverage aims by using taxes, the cost of bankruptcy, and the conflict of interests between creditors and owners.

According to the tax trade-off model, successful firms will use more debt because they may have a high tax cost and low bankruptcy risk, so taxes will increase taxes paid on the debt through tax shield and increase the firm's internal cash flow after taxes; there is a positive relationship between tax protection and firm value, according to Ooi (1999). Concerning the bankruptcy cost, Cassar and Holmes (2003) stated that firms will afford high financing costs due to potential liquidation costs in the event of bankruptcy, i.e. the higher the probability of the company defaulting on its debt to more than zero, and the

decline in its revenues, which will force it to bankruptcy and asset liquidation. If a company raises its debt to fund its operations, it may be unable to repay its debts on time, putting it at risk of bankruptcy or liquidation, forcing them to relocate to the debt holders, where the opportunity cost will be revealed if the company goes bankrupt. Aside from bankruptcy, the institution usually loses clients due to the fear of not being able to provide services and the risk of trusting the institution (Kochhar, 1997).

2.1.4 Pecking Order Theory

Because of the differences in the cost of these sources of capital, firms prefer specific choices concerning the used capital to finance their activities, according to Myers (1984) and Myers and Majluf (1984) who developed this theory. As a result, the firms' financial sources are comprised of the three sources listed below: internal financing based on profits, financed by debt, and financed by new shares. According to this theory, the priority in financing is first by internal finance, then by debt financing, and finally by financing with new shares; firms should follow this hierarchical order in choosing their financial sources, with financing by new shares coming last because it brings new owners to the firm and influences decision-making (Brealey and Myers, 2003).

According to Hutchinson and Mengersen (1989), high growth firms have similar financial and operating characteristics, whereas companies with a high probability of insolvency have reduced or discontinued stakeholders and clients from dealing with them for fear of not being able to meet their obligations to them, resulting in a decline in the company's value. As a result, the company will reduce debt financing to reduce these costs, which will have an impact on the company's operations and capital structure.

2.1.5 Market Timing Theory

The first to discuss Market Timing Theory is Myers and Majluf (1984), which assumes that managers and investors are rational. The idea focuses on how corporations exploit market timing to finance their investments, whether through shares or debt instruments. Managers believe they can determine the best moment to issue shares in the market if they believe stock prices will rise, and the best time to buy back shares if stock prices will fall. Due to information mismatch between managers and investors, this results in a poor appraisal by managers. According to Graham and Harvey (2001), the long-term impact of market timing on the capital structure is unknown.

2.2 Determinants of Capital Structure

2.2.1 Firm Size

Small businesses rely on debt to meet their obligations due to their limited access to capital markets, and lending to small businesses carries a higher risk than lending to large businesses, resulting in a negative link between firm size and bankruptcy. Smith and Warner (1979) and Ang and McConnel (1982) found that large corporations have a lower risk of bankruptcy than small corporations due to their greater variety. There was a positive association between firm size and financial leverage, according to prior studies (Kester, 1986; Lasfer, 1999; Barclay et al., 1995). Michaelas et al. (1999) also mentioned a positive correlation between firm size and loan maturity structure. While Marsh (1982) and Titman and Wessels (1988) claimed that the debt-to-firm-size ratio has a negative relationship.

2.2.2 Firm Age

Despite the fact that there is no evidence of a link between capital structure and business age (Green et al., 2002; Ramadan and Alokdeh, 2011), researchers regard firm age to be an indicator of its reputation and potential to advance. Due to lesser profitability, younger enterprises require more loans to fund their expansion.

2.2.3 Profitability

Due to their decreased risk of insolvency and high tax burden, high-profit enterprises (Modigliani and Miller, 1963; Ooi, 1999) would use more debt. However, Myers (1984), Titman and Wessels (1988), Barton et al. (1989), Chittenden et al. (1996), Coleman and Cole (1999), and Al-Sakran (2001) found a negative relationship between debt and profitability, indicating that high-profit firms will have a low debt rate because they will rely on internal sources rather than external sources to obtain funds.

2.2.4 Tangibility

Pecking Order Theory (Van der Wijst and Thurik, 1993; Chittenden et al., 1996; Michaelas et al., 1999) and Trade-Off Theory both revealed a positive association between asset structure and leverage. Fixed assets, according to Myers (1977), facilitate the acquisition of more debt, which aids in the growth process. According to Harris and Raviv (1991) and Titman and Wessels (1988), the higher a company's tangible assets are, the better its ability to repay obligations in the event of liquidation. Assets could also be used as collateral to lower agency costs associated with loan use, according to Smith and Warner (1979) and Stulz and Johnson (1985). Fixed assets and debt ratio have a positive association (Feri and Jones, 1979; Marsh, 1982; Long and Matlitz, 1985; and Allen, 1995).

2.2.5 Liquidity

Jong et al. (2007) and Alzubaidi and Salameh (2014) found that the liquidity ratio and leverage have a negative relationship; enterprises with a greater liquidity ratio have a higher ability to meet their commitments, resulting in lower risk, and will not borrow to finance operational expansion. According to Ozkan (2001), liquidity has a dual impact on a firm's financial structure, with the relationship between the liquidity ratio and debt being either negative or positive. Firms with a high liquidity ratio will have a greater ability to meet their obligations, which may necessitate borrowing. If they need to finance their expansion, the liquidity ratio and debt have a positive association; however, other firms may utilize liquidity to fund growth processes rather than borrowing, resulting in a low debt, and the liquidity ratio and debt have a negative relationship.

2.3 Synthesis and Research Framework

The theories and empirical evidence discussed above provide a comprehensive foundation for understanding the determinants of capital structure. The Modigliani and Miller Theory establishes the baseline relationship between capital structure and firm value under perfect market conditions, while Agency Cost Theory, Trade-Off Theory, Pecking Order Theory, and Market Timing Theory offer explanations for capital structure decisions in real-world settings with market imperfections.

The firm-specific characteristics identified in the literature—firm size, firm age, profitability, tangibility, and liquidity—have been shown to influence capital structure decisions, though empirical evidence regarding the direction of these relationships

remains mixed. These mixed findings suggest that the determinants of capital structure may vary across different institutional contexts, time periods, and industry sectors.

This study draws upon these theoretical foundations to examine the determinants of capital structure in the Indonesian context, with particular focus on companies in the consumer non-cyclicals sector. By integrating insights from multiple capital structure theories and considering firm-specific characteristics, this research aims to contribute to the understanding of how Indonesian firms make financing decisions and how these decisions relate to firm value and performance.

2.4 Hypotheses Development

Based on the theoretical framework and empirical evidence discussed above, the following hypotheses are proposed for this study:

H_1: Firm size has a significant effect on capital structure.
H_2: Firm age has a significant effect on capital structure.
H_3: Profitability has a significant effect on capital structure.
H_4: Tangibility has a significant effect on capital structure.
H_5: Liquidity has a significant effect on capital structure.
H_6: Firm size, firm age, profitability, tangibility, and liquidity simultaneously have a significant effect on capital structure.

3. Methods

3.1 Research Design

The research method used in the study is a quantitative research method that uses statistical calculating tools to process and interpret data. This sort of research is associative causal research, which is undertaken to verify the causal association of numerous factors based on the characteristics of the topic researched.

3.2 Population and Sample

After accounting for any missing data, this study examines the drivers of capital structure for manufacturing firms listed on the Indonesia Stock Exchange (BEI) Indonesia 2014-2020, using a balanced panel of 128 firms across a seven-year period. The companies under investigation are Indonesia's leading industrial force, and it is thought that the sample will do a good job of portraying the country's overall leverage. Because the sample included data from multiple firms and time periods, panel data techniques were used in this investigation. The use of panel data greatly expands the sample size and is better suited to studying change dynamics.

3.3 Data Collection Techniques

The data used in this study are secondary data obtained from financial statements and annual reports from manufacturing companies listed on the Indonesia Stock Exchange (BEI) for the period 2014-2020. The data was obtained from the official website of the Indonesia Stock Exchange (IDX) which can be accessed at www.idx.co.id and from the official websites of the respective companies.

3.4 Operational Definitions of Research Variables

Table 1. Definition of Variables

Variables	Definition
Leverage	Ratio of total debt to total assets
Tangibility	Ratio of net-fixed assets to total assets

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Variables	Definition
Profitability	Ratio of net profit before taxes to total assets
Liquidity	Ratio of current assets to current liabilities
Size	Logarithm of assets
Age	Logarithm of Years since founding

Source: Various sources adjusted to research variables

3.5 Data Analysis Techniques

We employed three estimating models to evaluate the effects of explanatory variables on the debt ratio (a measure of leverage), namely pooled ordinary least squares (OLS), random effects, and fixed effects. Under the assumption that none of the firms in our sample have either group or individual impacts. The three equations, namely pooled OLS, fixed effects, and random effects, are estimated as follows:

1) Pooled OLS Model:

$Yit = \alpha + \beta Xit + \varepsilon it$

2) Fixed Effects Model:

$Yit = \alpha i + \beta Xit + \varepsilon it$

3) Random Effects Model:

$Yit = \alpha + \beta Xit + ui + \varepsilon it$

Where:

Yit = The leverage (debt ratio) for firm i at time t

Xit = The vector of independent variables (tangibility, profitability, liquidity, size, and age)

α = The intercept

β = The coefficient vector

αi = Firm-specific fixed effects

ui = Firm-specific random effects

εit = The error term

To determine the most appropriate model among the three, we will conduct the Chow test to choose between pooled OLS and fixed effects, the Hausman test to choose between fixed effects and random effects, and the Lagrange Multiplier test to choose between pooled OLS and random effects. Classical assumption tests including normality, multicollinearity, heteroscedasticity, and autocorrelation tests will also be conducted to ensure the robustness of the regression model.

4. Results and Discussion

4.1 Descriptive Statistics

Table 2. The Statistical Description of the Variables

Variable	Lev	Tang	Prof	Liq	Size	Age
Mean	0.524	0.497	-0.057	2.828	12.370	1.266
Median	0.466	0.500	0.030	1.605	12.265	1.380
Maximum	5.170	1.040	0.870	3.032	14.537	1.633
Minimum	0.000	0.001	-8.494	-6.070	9.884	0.000
Std. Dev.	0.503	0.190	2.841	1.235	0.696	0.292
Observations	896	896	896	896	896	896

Source: Data processed by the author (2025)

Table 2 shows the descriptive statistics for the variables that were employed in this study, including the number of observations, as well as the mean, median, maximum,

minimum, and standard deviation. Table 2 shows that the size had the highest mean with a value of (12.370), while the profitability had the lowest mean with a value of (-0.057). The financial leverage mean was (0.524), indicating that over 52 percent of the company capital in the study sample is debt-funded. This demonstrates the importance of debt in company capital financing, which is consistent with commercial companies' traditional business model of relying heavily on deposits. The liquidity mean was (2.828), indicating that 282 percent of total assets are liquid assets. This demonstrates financial solvency while excluding the risk of financial disaster. The tangibility mean was (0.497), indicating that fixed assets accounted for 49.7% of total assets.

4.2 Pearson Correlation Analysis

The Pearson Correlation Coefficient was used to measure any correlation between the study's variables during the study period, as shown in Table 3.

Table 3. Pearson Correlation Between the Study's Variables

Variable	Lev	Tang	Prof	Liq	Size	Age
Lev	1					
Tang	0.089	1				
Prof	-0.008	-0.032	1			
Liq	-0.110	-0.140	0.006	1		
Size	-0.008	0.240	-0.025	-0.076	1	
Age	0.085	0.042	-0.023	-0.015	0.139	1

Source: Data processed by the author (2025)

Table 3 shows that there is no significant correlation between the research variables, with the highest correlation value (0.089) between leverage and tangibility, indicating that multicollinearity is not an issue. Leverage also has a negative relationship with profitability, liquidity, and size, while there is a positive relationship between tangibility and age, and between leverage and age. However, this is insufficient evidence to conclude that there is a multicollinearity issue.

4.3 Model Selection Tests

Before performing regression testing, we tested the selection of the best and most appropriate model from the three existing equations, namely pooled ordinary least squares (OLS)/Common Effects Model, the Random Effects Model, and the Fixed Effects Model.

4.3.1 Chow Test

Table 4. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	56.093546	(127,763)	0.0000
Cross-section Chi-square	2092.785328	127	0.0000

Source: Data processed by the author (2025)

Table 4 provides the test results to determine which model is the best fit between the Common Effect Model and the Fixed Effect Model. Based on the test results, the Fixed Effect Model is better than the Common Effect Model since the P Value is less than 0.05, which is 0.0000.

4.3.2 Hausman Test

Table 5. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	24.598990	5	0.0002

Source: Data processed by the author (2025)

Table 5 shows that the P Value of 0.0002 is less than 0.05, indicating that the Fixed Effect Model is superior to the Random Effect Model.

The researcher can infer that the Fixed Effect Model is the correct model for this research based on the outcomes of two tests, namely the Chow test and the Hausman test. Because the Fixed Effect model compared to Common Effect and Random Effect models has a P value less than 0.05, a Lagrange Multiplier test is not required to compare the Random and Common Effect models.

4.4 Regression Analysis

Table 6. Regression Analysis Results (Fixed Effect Model)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.0220	0.4957	8.1130	0.0000
Tang	-0.1820	0.0744	-2.4483	0.0146
Prof	0.0009	0.0021	0.4102	0.6818
Liq	-0.0014	0.0005	-2.6484	0.0083
Size	-0.2881	0.0416	-6.9199	0.0000
Age	0.1264	0.0683	1.8519	0.0644
R-squared		0.5678		
Adjusted R-squared		0.5123		
F-statistic		10.2345		
Prob (F-statistic)		0.0000		

Source: Data processed by the author (2025)

4.5 Discussion

4.5.1 The Effect of Tangibility on Leverage

Theoretically, the debt ratio and tangibility (asset structure) should have a positive relationship. However, as shown in Table 6, the relationship is negative based on the findings of this study. As a result, the drop in leverage reflects an increase in fixed assets and a decrease in debt-financed operational assets. However, an increase in fixed assets does not necessarily imply a reduction in risk; also, the company's fixed assets have a low liquidation or liquid value because they are not used in other businesses. This finding is in line with Vijayakumaran (2019), Almanaseer (2019), Ahmed Sheikh and Wang (2011), and Booth et al. (2001). Although this finding contradicts the Trade-Off Theory, which states that firms with relatively safe tangible assets borrow more than firms with hazardous intangible assets, this conclusion is consistent with the Agency Theory's implications, which suggest that managers' proclivity to consume more than the ideal number of perquisites may result in an inverse relationship between collateralizable assets and debt levels (Titman & Wessels, 1988).

4.5.2 The Effect of Profitability on Leverage

Table 6 demonstrates that there is no relationship between profitability and financial leverage, indicating that profitable firms have low debt levels in their capital structure. As a result, the higher the profit, the greater the reliance on internal financing rather than

external financing, even if external financing is available, resulting in a decrease in the debt ratio in the capital structure. This finding is consistent with the Pecking Order Theory and the studies of Myers (1984), Titman and Wessels (1988), Almanaseer (2019), and Ahmed Sheikh and Wang (2011).

4.5.3 The Effect of Liquidity on Leverage

According to the results in Table 6, there is a negative relationship between the liquidity ratio and leverage, which allows firms to use this liquidity instead of borrowing from external sources because these firms avoid debt to avoid the high cost of funds. This finding is supported by Omet (2003), Almanaseer (2019), and Ahmed Sheikh and Wang (2011), as well as the Pecking Order Theory. However, this contradicts the Trade-Off Theory. Even though manufacturing firms rely heavily on short-term debt, either due to a small and underdeveloped bond market or due to high-cost long-term bank debt, it is difficult to be certain that this negative relationship is the result of firms' profound reliance on short-term debt because the short-term debt ratio is not used independently as an explanatory variable in this study. This negative relationship could be the result of firms maintaining excessive liquidity, which encourages managers to consume more than the optimal level of perquisites. As a result, firms with fewer collateralizable assets may choose to take on more debt in order to limit their managers' consumption of perquisites.

4.5.4 The Effect of Firm Size on Leverage

Table 6 also demonstrates a significant negative correlation between size and financial leverage. This finding contradicts the theoretical expectation that large firms would use more money from external sources due to a lack of funds generated internally, resulting in a high debt ratio in their capital structure. Furthermore, lenders prefer lending to large firms because of their ability in terms of low profit fluctuation, greater diversity in products, and high capacity in debt management, resulting in lower levels of risk and a lower likelihood of failure. However, the negative relationship found in this study suggests that larger Indonesian manufacturing firms actually use less debt, possibly due to better access to internal funding or a preference for equity financing. Small businesses may have a low debt ratio due to their limited ability to provide information to lenders, but the negative coefficient indicates that as size increases, leverage decreases. This finding partially supports the Trade-Off Theory but requires further investigation.

4.5.5 The Effect of Firm Age on Leverage

Age and leverage have a statistically significant positive relationship at the 10% level, as shown in Table 6 (p-value = 0.0644). This demonstrates that older firms finance their projects through borrowing because they have experience, which helps them build an appropriate financing mix, in addition to their ability to geographically expand and increase customer confidence by improving the type and quality of services they provide. This finding lends support to the Trade-Off Theory while contradicting the Pecking Order Theory, and is consistent with Pacheco and Tavares (2017).

5. Conclusion

This study aimed to examine the determinants of capital structure for manufacturing firms listed on the Indonesia Stock Exchange (BEI) over the period 2014-2020, using a balanced panel of 128 firms with 896 observations. The research specifically investigated the effects of tangibility, profitability, liquidity, firm size, and firm age on financial

leverage, measured as the ratio of total debt to total assets. Based on the model selection tests, the Fixed Effect Model was determined to be the most appropriate estimator for this panel data analysis.

The descriptive statistics revealed that, on average, over 52 percent of the company capital in the sample is debt-funded, demonstrating the importance of debt in corporate financing within the Indonesian manufacturing sector. The mean liquidity ratio of 2.828 indicates strong financial solvency, while fixed assets accounted for approximately 49.7 percent of total assets on average.

The regression analysis yielded several important findings that address the research objectives. First, regarding the effect of tangibility on leverage, the study found a significant negative relationship between asset structure and debt ratio. This finding contradicts the Trade-Off Theory, which predicts a positive relationship between tangible assets and borrowing capacity, but aligns with Agency Theory explanations and is consistent with previous studies by Vijayakumaran (2019), Almanaseer (2019), and Ahmed Sheikh and Wang (2011).

Second, the analysis revealed no significant relationship between profitability and financial leverage. This finding supports the Pecking Order Theory, which suggests that profitable firms prioritize internal financing over external debt, resulting in lower leverage ratios even when external financing is available. This result is consistent with the theoretical framework proposed by Myers (1984) and empirical evidence from Titman and Wessels (1988).

Third, the study identified a significant negative relationship between liquidity and leverage. Firms with higher liquidity ratios tend to utilize internal funds rather than external borrowing to avoid the higher costs associated with debt financing. This finding aligns with the Pecking Order Theory and is supported by the work of Omet (2003) and Almanaseer (2019), though it contradicts the predictions of the Trade-Off Theory.

Fourth, contrary to theoretical expectations, the research found a significant negative relationship between firm size and leverage. This suggests that larger manufacturing firms in Indonesia actually use less debt in their capital structure, possibly due to better access to internal funding sources or a preference for equity financing. This finding partially supports the Trade-Off Theory but indicates that the relationship between size and leverage may be context-specific and requires further investigation.

Fifth, the study revealed a marginally significant positive relationship between firm age and leverage at the 10 percent level. Older firms tend to use more debt financing, leveraging their experience, reputation, and established market presence to access external funding. This finding supports the Trade-Off Theory and is consistent with the work of Pacheco and Tavares (2017).

In conclusion, the determinants of capital structure for Indonesian manufacturing firms present a complex picture that draws upon multiple theoretical frameworks. The findings provide partial support for the Pecking Order Theory, particularly regarding the effects of profitability and liquidity on leverage, while also offering some support for the Trade-Off Theory through the positive relationship between firm age and leverage. The negative relationship between tangibility and leverage, however, aligns more closely with Agency Theory explanations. These results suggest that capital structure decisions in emerging markets like Indonesia are influenced by a combination of factors that may not always conform to traditional theoretical predictions developed in the context of developed markets. The study contributes to the understanding of corporate financing behavior in emerging economies and provides valuable insights for financial managers, investors, and

policymakers seeking to understand the dynamics of capital structure in the Indonesian manufacturing sector.

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