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The Relationship Between Goodwill and Capital Structure With Financial Market Development As A Moderator

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Abstract

Transportation and logistics companies in Indonesia face significant challenges in maintaining capital stability, especially after the COVID-19 pandemic. The volatility in earnings and the increasing importance of intangible assets like goodwill have raised questions about their impact on capital structure. This study aims to examine the influence of goodwill assets, earning volatility, and financial flexibility on capital structure, with financial market development as a moderating variable. A quantitative research method was employed using panel data regression and moderated regression analysis. The study analyzed 120 observations from 20 companies listed on the Indonesia Stock Exchange between 2018 and 2023. Results indicate that goodwill assets and earning volatility do not have a significant effect on capital structure, while financial flexibility shows a strong and consistent influence. Furthermore, financial market development does not significantly moderate the relationship between goodwill and capital structure. These findings suggest that internal financial strategies, particularly enhancing financial flexibility, are more impactful than intangible assets in shaping capital structure decisions in this sector. Future research should explore additional moderating variables, such as governance quality or investor sentiment, and conduct cross-sectoral comparisons to generalize findings.

Keywords: Goodwill Asset, Earning Volatility, Financial Flexibility, Financial

INTRODUCTION

The role of the transportation and logistics sector is very closely related in daily life such as human mobility which is increasing due to technological developments that make it easier for a person to be able to travel at any time so as to cause the desire to travel both for business and leisure needs (Fernandes et al., 2023; Gunasekaran et al., 2017; Herdiana et al., 2023; Herold & Lee, 2017; Kuzey et al., 2022). In addition to human mobility, this sector also mobilizes goods from simple things such as food to the fulfillment of energy security as well as the strategic interests of the company's operations in supporting the supply chain.

The object of this study is that transportation and logistics sector companies listed on the Indonesia Stock Exchange (IDX) as of 2024 are included in category K. Category K is intended for the classification category of sectors and industries engaged in transportation and logistics consisting of 37 companies that provide services for the movement of people and or goods from one location to another. Broadly speaking, companies that are members of the transportation and logistics sector are engaged in airlines, passenger marine transportation, passenger land

transportation and logistics & deliveries. Of the 37 companies in the transportation and logistics sector listed on the stock exchange, 14 companies were listed after December 31, 2018 and 3 companies that did not present financial statements for the 2018-2023 period, so that 20 companies were obtained that would be used as sample companies in this study.

In Indonesia, one of the growing and very important corporate sectors in the development of a country is transportation and logistics. This sector is very important because Indonesia is an archipelagic country that urgently needs adequate transportation and logistics facilities as a link for economic activities, distribution of living needs of the wider community and equitable distribution of the population. The transportation and logistics sector is expected to fulfill the vision mandate of the Ministry of Transportation, namely the realization of Reliable, Inclusive, Competitive and Value-Added National Transportation to support the realization of the Golden Indonesia Vision 2045: "Sovereign, Advanced and Sustainable Archipelago State (https://www.dephub.go.id/post/read/kemenhub-susun-rencana-kerja-tahun-2025).

One of the indicators for fulfilling this vision is competitiveness, which means the availability of efficient and competitive transportation services, which are served by service providers and human resources who are professional, independent and productive, and internationally competitive (Strategic Plan of the Ministry of Transportation 2019-2024). In addition to the necessary experts, the availability of capital is an obstacle to the realization of transportation facilities because it requires very large costs coupled with soaring costs of materials and fuels due to global impacts. Another challenge faced by the transportation and logistics sector is the covid-19 pandemic

The condition of the Covid-19 pandemic resulted in a decrease in the Gross Domestic Product of the transportation and logistics sector in Q1 of 2020 which was marked by a growth of only 1.27% as compared to the growth of the transportation sector in the previous year reaching 7.55% (BPS, 2020). The following is presented in table 1.2 of the contribution of the transportation and warehousing sector to gross domestic product in 2018-2023 (in %).

Table 1. Contribution of Transportation and Warehousing to Gross Domestic Product in 2018-2023 (in %)

Year	2018	2019	2020	2021	2022	2023
Contribution of Transportation and Warehousing to Gross Domestic Product	5,38	5,57	4,47	4,24	5,02	5,89

Source: bps.go.id data that has been processed by the author, 2024

The decline in the contribution of gross domestic product began in 2020 which was around 20% followed by the achievement of the lowest contribution value in 2021, namely 4.24 caused by the government's decision in the determination of Large-Scale Social Restrictions (PSBB). According to Fauzia & Yunita (2022), the impact of this policy has resulted in a reduction in passengers of public vehicles such as airplanes, trains, taxis, buses, and ships. Many airports were closed and flights both domestic and international were canceled. One of them occurred at PT Garuda Indonesia Tbk which in the 1st semester of 2020 suffered a loss of US$ 712.72 million or

equivalent to Rp. 10.40 trillion (assuming an exchange rate of Rp. 14,600/US$) and difficulties in paying debts of up to Rp. 70 trillion and is estimated to continue to increase by Rp. 1 trillion every month. PT Blue Bird Tbk also suffered losses caused by a decrease in revenue of 39.86% from Rp. 1.91 trillion in semester 1 2019 to Rp. 1.15 trillion in semester 1 2020. In the example of the case above, it appears that in running their business, companies in the transportation and logistics sector must pay attention to financial aspects because they have a very vital role. According to Az-Zahra & Yunita (2022), investors' choice to invest in a company may be influenced by the company's financial success. One of the factors that determine a company's financial success is its capital structure. Capital structure is a reflection of the financial conditions faced by the company (Putri & Willim, 2024)

Capital structure is a balance of the financing sources chosen by the company. Many models are used to explain the company's funding behavior. Theories that explain this include trade-off theory, pecking order theory and signaling theory. Optimal capital structure results in the creation of capital cost efficiency. Capital cost efficiency can be created when managers can determine the right source of funding (Hirdinis, 2019; Kontuš et al., 2023; Prekazi et al., 2023).

To determine the right source of funding, it is necessary to determine the right determinants of capital structure. Guizani (2020), Prakash et al. (2023) and other researchers have examined several specific factors inherent in a company that are suspected to affect the capital structure such as company size, profitability, growth rate and fixed assets but these studies still do not consider goodwill assets. Companies that are able to increase the goodwill value of assets from one period to another will be able to generate a greater market value compared to the book value of the assets they own (Wayan Widnyana et al., 2021). The goodwill value of an asset needs to be considered because it represents the amount of money that can be paid behind the book value of an asset (Wayan Widnyana et al., 2021). Matemilola & Ahmad (2015) have researched goodwill assets as one of the determinants of capital structure. Goodwill assets serve as additional collateral for companies in South Africa to obtain loans. It can be concluded that companies that include the value of goodwill assets in their loan applications will get the potential for a nominal increase in the loan value and an increase in the company's value

The next factor that affects the capital structure is earning volatility. The lower the earning volatility, the capital structure chosen by the company will be sourced from internal funding in line with research conducted by Alipour et al. (2015). The level of income stability that a company obtains from one period to the next period is referred to as the earning volatility rate. Companies with high levels of earning volatility will make managers in the company experience difficulties in making decisions and difficulties in obtaining financing from external parties such as debt because creditors will be worried that their debts will not be paid off if future income occurs a downward trend even though perhaps in the current period, the income obtained is high. The transportation and logistics sector had become a sector that had a high level of earning volatility due to the Covid-19 pandemic which was marked by a decrease in turnover ranging from 30% to almost 50%. The following is presented in figure 1.1 of the data on the number of passenger departures at the main port.

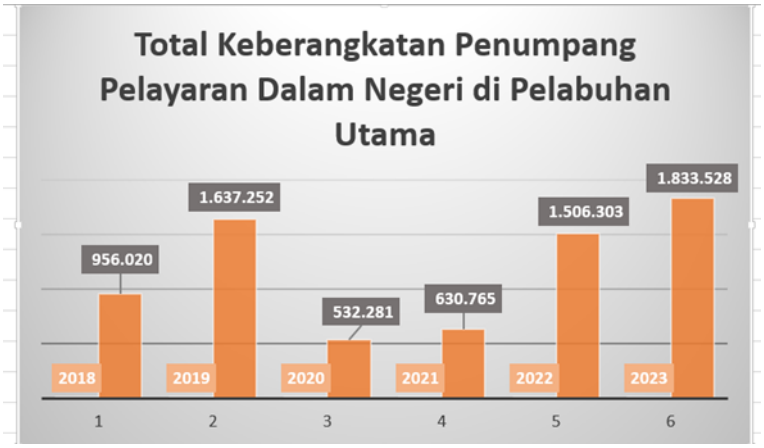

Figure 1. Departure of Domestic Cruise Passengers at Main Ports
Source: bps.go.id data that has been processed by the author (2024)

Figure 1. shows that during the pandemic period in 2020, the number of passengers decreased by 67% compared to 2019. The increase in the number of passengers occurred in 2022 by 59%. The rise and fall in the number of passengers indicates the ups and downs of the company's revenue, so it can be said how volatile the transportation and logistics sector is in the period before and after the pandemic.

The next factor that affects the capital structure is financial flexibility. The higher the financial flexibility, the lower the proportion of debt in the capital structure. Financial flexibility is a level of ease for a company to obtain financing in difficult or critical times. According to Bancel & Mittoo (2011), financial flexibility is the ability of a company to be able to respond effectively and adapt to unexpected events that occur in the future regarding cash flow and investment opportunities so that financial flexibility is one part of the company's business strategy and is an important element in decision-making related to capital structure. The following is presented in figure 1.2 of the data on the number of passengers at the main airport during the pandemic period in 2020, the number of passenger departures at the main airport for the 2018-2023 period.

Figure 2. Number of Aircraft Passenger Departures at Major Airports
Source: bps.go.id data that has been processed by the author (2024)

The image shows that there was a decrease in the number of passengers at the main airport at 55% in 2020 so it can be said that the airline company is at a critical period and in 2022 there was an increase in the number of passengers at 47% which shows how the company can manage the financial flexibility strategy in the previous year so that in 2022 the airline can serve the surge in passenger increases. According to Bancel & Mittoo (2011), very few studies have examined financial flexibility given its unobservable characteristics and the difficulty of measuring.

Thakur et al. (2024) presents that financial market development in developing countries is less efficient. If the financial market is less efficient, there is an imbalance of information owned by the creditor and the borrower which is referred to as asymmetric information. To reduce asymmetric information, two determinants are needed, namely the strength of creditors and the information available to lenders. The information available to the lender includes the borrower's credit payment track record or information on the financial institution that has provided the loan to the borrower. Financial market development can measure several things, including measuring the level of interaction between savers and borrowers, measuring the level of trust established between the two parties, measuring how important functions in the financial market are running, namely the transfer of funds flows from the surplus to the deficit party, measuring how risk sharing in investment activities and as a means of monitoring and directing market participants in the context of asymmetric information. With a reduction in asymmetric information, the lender will be willing to provide a larger amount of funds. One of the indicators of a decrease in asymmetric information is financial market development. Çam & Özer (2022) and Acedo-Ramírez & Ruiz-Cabestre (2014) identified financial market development as an additional determinant that is predicted to affect the relationship between goodwill assets and capital structure. Based on research conducted by Thakur et al. (2024), there is a financial market development that moderates the relationship between goodwill assets and capital structure in companies listed in 32 countries.

Putri & Willim (2024) conducted research related to the influence of Asset Structure, Earning Volatility and Financial Flexibility on Capital Structure. The research object used is a company in the consumer goods industry listed on the Indonesia Stock Exchange. To obtain the results, this

study used multiple linear regression analysis. The results found in this study are: (i) Asset Structure and Financial Flexibility have a significant influence on Capital Structure and (ii) Earning Volatility has no effect on Capital Structure.

Naser, et al (2024) conducted research related to the relationship between cash flow volatility and capital structure. The research object used is companies engaged in non-financial industries listed in the middle east and north africa (MENA) market and the African market in the period 2011-2020. To obtain results, this study used a Two step system generalized method of moment (GMM) regression. The results of this study are: (i) There is a significant positive relationship between Cash Flow Volatility and Capital Structure and (ii) there is a negative relationship between fixed assets that moderate cash flow volatility and Capital Structure. Putri & Willim (2024) states that Asset Structure and Financial Flexibility have a significant influence on Capital Structure, but earning volatility has no effect on Capital Structure.

Although previous studies have examined various determinants of capital structure, such as asset structure, firm size, profitability, and earnings volatility, there is limited empirical research that integrates intangible assets like goodwill in the analysis. Even fewer studies explore how macroeconomic elements, particularly financial market development, moderate this relationship. This gap is especially evident in the context of transportation and logistics companies in emerging economies like Indonesia, where market inefficiencies and asymmetric information may significantly affect capital structure decisions.

This study introduces a novel approach by simultaneously examining the impact of goodwill assets, earning volatility, and financial flexibility on capital structure, with financial market development as a moderating variable. It is one of the few studies focusing on companies in the Indonesian transportation and logistics sector, and the first to empirically test whether financial market development amplifies or diminishes the influence of goodwill assets on capital structure using panel data regression and moderated regression analysis.

The purpose of this study is to find out whether there is an influence of asset goodwill on capital structure, to find out if there is an effect of earning volatility on capital structure, to find out if there is an influence of financial flexibility on capital structure, to find out whether there is an influence of goodwill asset, earning volatility, financial flexibility on capital structure simultaneously and to find out whether financial market development Moderate the influence of goodwill assets on capital structure

This research provides valuable insights for corporate financial managers, investors, and policymakers in emerging markets. Understanding how both company-specific factors and macroeconomic variables affect capital structure can improve financial decision-making, reduce funding risks, and enhance capital efficiency. Moreover, the study's findings can help regulators foster financial market environments that better support strategic funding needs in critical sectors such as transportation and logistics.

RESEARCH METHODS

This research has a descriptive purpose. This study aims to determine the influence of Goodwill Asset, Earning Volatility, and Financial Flexibility on Capital Structure moderated by Financial Market Development (a study on companies in the transportation and logistics sector in 2018-2023 listed on the Indonesia Stock Exchange). Furthermore, this study uses quantitative research methods.

Data Collection and Data Sources

The data in this study is secondary data obtained by researchers through intermediary media or is data obtained and recorded by other parties. The data used in this study is accounting data in the form of financial statements of sample companies, namely balance sheets, profit and loss statements and financial ratios in 2018-2023 sourced from the *website* of the sample company and other relevant sources.

In order to achieve the research objectives and prove the truth of the hypotheses that have been proposed, two basic activities are used in data collection, namely:

1. Literature study, which is directed to obtain a theoretical foundation as a foundation in case testing. The theoretical foundation or theoretical basis is obtained through *literature*, scientific magazines (journals) and other types of writing that are relevant to the problem being researched.
2. Documentation, in this study, the author utilizes financial statements from research samples registered in the transportation and logistics sector for the 2018-2023 period and are published on *the* Indonesia Stock Exchange (www.idx.co.id) website and *the company's official* website.

Data Analysis Techniques

Data analysis techniques can be referred to as a method of analyzing data so that the data can be processed. *The software* used in data processing in this study is *eviews* 12.

1. Descriptive Statistical Analysis

The descriptive statistics in this study aim to provide an overview of variable data *goodwill asset*, *earning volatility*, *financial flexibility*, *capital structure* and *financial market development*. In this study, the data will be analyzed with descriptive statistics using a ratio scale. This scale is presented with indicators in the form of:

a. *Mean/average* is a mathematical calculation that is able to show the distribution of the same value on a certain data.
b. Standard deviation is a statistical measurement used to determine the spread of a data set relative to the mean and is calculated as the square root of *the variance*.
c. The maximum which is the largest value of a set of data.a
d. The minimum which is the smallest value of a dataset.

2. Panel Data Regression Test

This study uses three panel data models. The panel data model applied is as follows:

$$CSi,t = \beta 0 + \beta 1GASSi,t + \beta 2EVOLi,t + \beta 3FINFLEXi,t + \varepsilon i,t$$

Information:

CSi,t : *Capital Structure* Company I at T time
b0 : Konstanta
B1-3 : Regression Coefficients
GAS : *Goodwill Asset*
EVOL : *Earning Volatility*
FINFLEXi : *Financial Flexibility*
I : company
t : time
ε : *error*

The regression estimation of panel data can be classified into three approaches, including: *Common Effect Model*, *Fixed Effect Model*and *Random Effect Model* Model *Random Effect* used to estimate panel data where there are variations in random subject values and relationships. This model is also called *Error Component Model* (ECM) or *Generalized Least Square* (GLZ). Suhendra (2021:176) in determining the most appropriate technique, there are several models that can be used: Chow Test, Hausman Test and Lagrange Multiplier Test

3. Uji Hypothesis

a. R2 Determination Coefficient Testing
b. F simultaneous influence test (F test)
c. Partial Influence Test (t-Test)

4. *Moderated Regression Analysis*

Moderated Regression Analysis (MRA) is carried out to evaluate the extent of the impact of the *goodwill asset* moderated by *financial market development*, *earning volatility*, *financial flexibility* against *capital strcucture*. This analysis uses panel data that includes independent variables, moderation variables, interactions between independent variables and moderation variables and dependent variables. In this moderation analysis estimation technique, the appropriate panel data model is selected when testing the panel data regression model. Equations used in *Moderated Regression Analysis* (MRA) can be formulated as follows:

$CSi,t = \beta0 + \beta1GASSi,t+ \beta2EVOLi,t+ \beta3FINFLEXi,t+ \beta5*MOi,t + \beta6GASS*MOi,t+ \varepsilon i,t$

Information:

CSi,t : *Capital Structure* Company I at T time
b0 : Konstanta
B1-6 : Regression Coefficients
GAS : *Goodwill Asset*
EVOL : *Earning Volatility*
FINFLEXi : *Financial Flexibility*
MO : *Financial Market Development*
GASS*MO : MO moderates relationships *goodwill asset* With *capital structure*
I : *cross section*
t : *time series*

ε : *error*

a. Pengujian Hipotesis *Moderated Regression Analysis*

Moderated Regression Analysis *hypothesis testing* was carried out to assess the influence of independent variables on dependent variables either collectively (simultaneously) or individually (partially) by considering the influence of moderation provided by the moderation variables.

b. Coefficient of Determination (R Square)

R-square is used as a tool to measure the extent to which dependent variables can explain variations in their dependent variables to see the extent to which the variables *of asset goodwill*, *earning volatility* and *financial flexibility* affect the capital structure when moderated by *financial market development*.

c. Simultaneous Test (F Test)

The F test was conducted to evaluate whether together the dependent variables had a significant influence on the dependent variables moderated by the moderation variable, with a significance level of 95% (α = 0.05).

d. Partial Test (t-test)

A partial test was conducted to evaluate the individual or partial influence of independent variables on dependent variables by considering the influence of the moderation variable with a significance level of 95% (α = 0.05).

RESULT AND DISCUSSION

Descriptive Statistical Analysis

Descriptive statistical analysis is used to provide an overview related to the research variables. The independent variables of the study consisted of goodwill assets (GASS), earning volatility (EVOL) and financial flexibility (FINFLEX). The dependent variable of capital structure (CS) with the proxy debt to asset ratio and the moderation variable of financial market development (MO). These variables are found in the research sample that has been determined in chapter 3 of this study, namely 20 transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) from 2018-2023.

The descriptive statistical analysis used in this study includes mean values, maximum values, minimum values and standard deviation values as well as the amount of observation data. The mean value is the average value generated from the sum of all data divided by the number of data observations. The minimum value is the smallest value or lower limit of the data. The maximum value is the highest value or upper limit of the data. Standard deviation is a measure of the distribution of data in a sample that shows the extent to which the value of the data deviates from the average value of the data. The results of the descriptive analysis produced the following data:

Table 2. Descriptive Statistical Analysis Results

	X1	X2	X3	And	With

Mean	-0,155763	0,108509	-1.028684	0.655175	0.344211
Maximum	1.294854	1.620000	0.580000	3.140000	0.360000
Minimum	-1.990408	0.000000	-18.70000	0.110000	0.330000
St Dev	0.547371	0.246240	2.958585	0.522035	0.009207
Observation	114	114	114	114	114

Source: Researcher's processed data (2025)

a. Goodwill Asset (X1)

Based on table 4.1 the mean of goodwill asset data is -0.155763, the highest goodwill asset value reaches 1.294854 and the lowest is -1.990408 and with standard deviation can be seen the level of data spread (variance) of goodwill assets deviating from the average of 0.547371. In companies listed in the transportation and logistics sectors that have a negative goodwill asset value, it is due to a lower enterprise value compared to total assets. The low enterprise value is due to the low market capitalization value or the low performance of issuers in the stock market, especially during the Covid-19 pandemic or the high level of retained earnings owned by the company. If the low market capitalization value and also the high level of retained earnings indicate a reduction in the level of investor confidence in the investment plan carried out by the company.

Based on the results of the calculation, the value of the Goodwill Asset in PT. Mineral Resources Mandiri, Tbk is 0.39. This means that the enterprise value of the passive post owned by PT. Mineral Resources Mandiri, Tbk is greater than the value of the total assets in the asset item in the financial statements. The difference is due to the goodwill content of assets over the market value of passive items.

b. Earning Volatility (X2)

Based on table 4.1, the mean of the earning volatility data is 0.108509 where the highest earning volatility value reaches 1.620000 and the lowest is 0.000000 and with standard deviation can be seen the rate of data spread (variance) earning volatility deviates from the average of 0.246240. The highest earning volatility is owned by PT. Express Trasindo Utama for the 2021 period and the lowest Earning volatility is owned by PT. Samudera Indonesia, Tbk for the 2018 period.

Based on the results of the calculation, the Earning Volatility value of PT. Express Trasindo, Tbk by 1.62. This means that the ROA value of PT. Express Trasindo, Tbk experienced a variation or instability of 1.62 points from the average ROA of PT. Express Trasindo, Tbk in the last two years.

c. Financial Flexibility (X3)

Based on table 4.1 the mean of financial flexibility data is -1.028684, the highest financial flexibility value reaches 0.580000 and the lowest is -18.70000 and with standard deviation can be seen the level of data dissemination (variance) of financial flexibility deviating from the average of 2.958585. The highest financial flexibility is owned by PT. Nelly Dwi Putri's voyage for the 2023 period and the lowest financial flexibility is owned by PT. Express Trasindo Utama, Tbk for the 2023 period.

Based on the results of these calculations, the value of Financial flexibility at PT. Nelly Dwi Putri, Tbk's voyage was 0.57. This means that every Rp.1 can generate retained earnings of Rp.0.57.

d. Capital Structure (Y)

Based on table 4.1 the mean of the Capital Structure data is 0.655175, the highest capital structure value reaches 3.140000 and the lowest is 0.110000 and with the standard deviation can be seen the level of data distribution (variance) of the capital structure deviating from the average of 0.522035. The highest capital structure is owned by PT. Express Trasindo Utama for the 2020 period and the lowest capital structure is owned by PT. Nelly Dwi Putri's Voyage, Tbk for the 2018 period.

Based on the results of the calculation, the value of the capital structure at PT. Express Trasindo Utama, Tbk amounted to 3.1386. This means that each asset worth Rp.1 is backed up by debt of Rp. 3.1386.

e. Financial Market Development (Z)

Based on table 4.1 the mean of financial market development data is 0.344211, the highest financial market development value reaches 0.360000 and the lowest is 0.330000 and with standard deviation can be seen the level of data dissemination (variance) of financial market development deviating from the average of 0.009207.

Based on the results of the calculation, it was found that each Rp.1 Gross Domestic Product was sourced from the credit value provided by the bank to the private sector of Rp.0.35. The results of the complete financial market development calculation are shown in appendix 5 page 108.

Panel Data Regression Model Selection

a. Chow Test

Table 3. Chow Test Results

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.065089	(5,24)	0.0082
Cross-section Chi-square	20.245667	5	0.0011

Source: Researcher's processed data (2025)

Based on table 4.2 shows that the value of Prob. (p-value) Cross section F of 0.0082 Because the probability (p-value) of Cross-section F < 0.05, Ho is rejected, so the fixed effect model is considered more accurate than the common effect model. Because the decision obtained was to use a fixed effect model, so it was followed by a thirst test.

b. Hausman Test

Table 4. Hausman Test Results

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.819258	3	0.4203

Source: Researcher's processed data (2025)

Based on table 4.3, it shows a probability value (p-value) of random cross-section of 0.4203 greater than 0.05. Based on these data, it can be decided that H0 is accepted so that the random effect model is considered more appropriate than the fixed effect model. Because the decision obtained was using a random effect model, so it was followed by a lagrange multiplier test.

c. Uji Lagrange Multiplier

Table 5. Lagrange Multiplier Test Results

	Test Hypothesis		
	Cross-section	**Time**	**Both**
Breusch-Pagan	3.128932	0.483992	3.612924
	(0.0769)	(0.4866)	(0.0573)
Honda	1.768879	-0.695695	0.758855
	(0.0385)	(0.7567)	(0.2240)
King-Wu	1.768879	-0.695695	0.741733
	(0.0385)	(0.7567)	(0.2291)
Standardized Honda	3.144026	-0.517605	-1.553984
	(0.0008)	(0.6976)	(0.9399)
Standardized King-Wu	3.144026	-0.517605	-1.575390
	(0.0008)	(0.6976)	(0.9424)
Gourieroux, et al.	--	--	3.128932
			(0.0908)

Source: Researcher's processed data (2025)

Based on table 4.4, it shows that the probability value (p-value) of the cross-section of 0.0769 is greater than 0.05. Based on this data, it can be decided that H0 is accepted so that the common effect model is considered more appropriate than the random effect model. Based on the results of the chow test, thirst test and Lagrange Multiplier test, the best model in this study is the common effect model. Because the chosen model is a common effect model, therefore a classical assumption test must be carried out. The classical assumption test used is multicollinearity and heterokedasticity.

Classical Assumption Test Results

a. Multicollinearity Test Results

Table 6. Multicollinearity Test Results

View | Proc | Object | Print | Name | Freeze | Sample | Sheet | Stats | Spec

	X1	X2	X3
	X1	X2	X3
X1	1.000000	0.028753	-0.293220
X2	0.028753	1.000000	-0.291635
X3	-0.293220	-0.291635	1.000000

Source: Researcher's processed data (2025)

In table 6, it can be seen that the correlation coefficients X1 (goodwill asset) and X2 (earning volatility) are 0.028753 < 0.85, X1 (goodwill asset) and X3 (financial flexibility) are -0.291635 < 0.85, and X2 (earning volatility) and X3 (financial flexibility) are -0.291635 < 0.85, so it can be concluded that there is no correlation value between independent variables that exceeds 0.85 so that it can be concluded that the model is free from multicollinearity or passes the multicollinearity test.

b. Heteroscedasticity Test Results

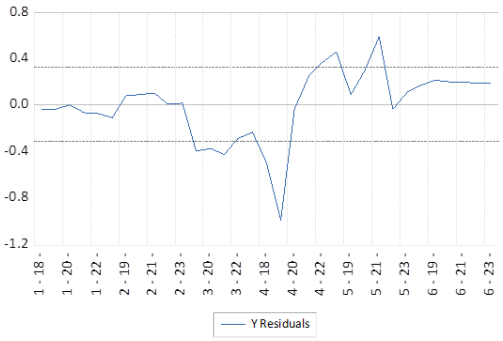

Figure 3. Heteroscedasticity Test Results
Source: Researcher's processed data (2025)

From the residual graph (blue color) it can be seen that it does not cross the limit (500 and -500), meaning that the residual variant is the same. Therefore, there are no symptoms of heteroscedasity or passing the heteroscedasity test.

Panel Data Regression Results

Table 7. Estimated Results of Panel Data Regression

Dependent Variable: Y
Method: Panel Least Squares
Date: 02/07/25 Time: 15:49
Sample: 2018 2023
Periods included: 6
Cross-sections included: 6

Total panel (unbalanced) observations: 33				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.664538	0.076346	8.704355	0.0000
X1	-0.024387	0.108037	-0.225729	0.8230
X2	0.391547	0.364207	1.075068	0.2912
X3	-0.485810	0.068000	-7.144227	0.0000
R-squared	0.696588	Mean dependent var		0.899394
Adjusted R-squared	0.665200	S.D. dependent var		0.554549
S.E. of regression	0.320872	Akaike info criterion		0.677666
Sum squared resid	2.985814	Schwarz criterion		0.859061
Log likelihood	-7.181490	Hannan-Quinn criter.		0.738700
F-statistic	22.19320	Durbin-Watson stat		0.733247
Prob(F-statistic)	0.000000			

Source: Researcher's processed data (2025)

Based on table 7, the value of the coefficient constant can be known, so that it can be formed in the regression equation as follows:

Y (CS)= 0.664538 - 0.024387X1(GASS) + 0.391547*X2(EVOL)
-0.485810*X3(FINFLEX)

The above equation can be interpreted as follows:

1. The constant value of 0.664538 means that if the goodwill asset (X1), earning volatility (X2) and financial flexibility (X3) are zero, then the capital structure (Y) will be worth 0.664538 units.
2. The regression coefficient of the goodwill asset variable (X1) is -0.024387 which means that if there is a change in the goodwill asset (X1) by 1 unit (assuming other variables are constant), then the value of the capital structure (Y) will decrease by -0.024387
3. The regression coefficient of the earning volatility variable (X2) is 0.391547 which means that if there is a change in earning volatility (X2) by 1 unit (assuming the other variables are constant), then the value of the capital structure (Y) will increase by 0.391547
4. The regression coefficient of the financial flexibility variable (X3) is -0.485810 which means that if there is a change in financial flexibility (X3) by 1 unit (assuming other variables are constant), then the value of the capital structure (Y) will decrease by -0.485810.

a. Pengujian Hypothesis

1) Determination Test Results (R Squared)

Based on table 4.6, the coefficient of the determination value R is 0.696588, it shows that goodwill assets (X1), earning volatility (X2), financial flexibility (X3) before moderated by financial market development are able to explain the value of capital structure of 69.6% while the remaining 30.4% is explained by other variables outside the study.

2) Simultaneous Tests

Simultaneous tests are performed to test whether independent variables simultaneously or together have a significant influence on dependent variables. With the provisions of decision-making, if the prob. (F statistic) < 0.05 (significance level 5%), then H0 is rejected which means

that the independent variables have a significant influence on the dependent variables together. However, if prob. (F. statistic) > 0.05 (significance level 5%), then H0 is accepted which means that the independent variables have no influence on the dependent variables together.

Based on table 4.6, it is obtained that the value of prob. (F-statistic) of 0.000000 < 0.05; then H0 is rejected which means that simultaneously goodwill assets (X1), earning volatility (X2) and financial flexibility (X3) have a significant influence on the capital structure before being moderated by financial market development (Z).

3) Partial Test

A partial test was carried out to determine the value of the regression coefficient individually on the dependent variable whether it was significant or not. The provisions for partial test decision-making are t calculated ≥ t table or prob. (p-value) < 0.05 (significance level of 5%), then H0 is rejected which means that the independent variable has a significant influence on the dependent variable partially. However, if the t-value of the <table or prob (p-value) > 0.05 (significance level of 5%), then H0 is accepted, which means that the independent variable does not have a significant influence on the dependent variable partially.

Based on table 4.6 it can be concluded that:

a) Variabel Goodwill Asset Hypothesis (X1)

The p-value (sig.) value of the goodwill asset variable is 0.8230. Because of the prob. (p-value)>0.05 (significance level of 5%) or 0.8230>0.05, then H0 is accepted and the conclusion is obtained that the goodwill asset does not have a significant influence on the capital structure.

b) Variabel Hypothesis Earning Volatility (X2)

The p-value (sig.) value of the earning volatility variable is 0.2912. Because of the prob. (p-value)>0.05 (significance level of 5%) or 0.2912>0.05, then H0 is accepted and the conclusion is obtained that earning volatility has no significant influence on the capital structure.

c) Variabel Financial Flexibility Hypothesis (X3)

The p-value (sig.) of the financial flexibility variable is 0.000. Because of the prob. (p-value)<0.05 (significance level of 5%) or 0.000<0.05, then H0 is rejected and the conclusion is obtained that financial flexibility has a significant influence on the capital structure.

Results of Moderation Regression Analysis

The following are the results of the estimated influence of goodwill assets (X1), earning volatility (X2), financial flexibility (X3) on capital structure (Y) moderated by financial market development (Z):

Table 8. Results of the Moderation Regression Test

Dependent Variable: Y				
Method: Panel Least Squares				
Date: 02/10/25 Time: 12:20				
Sample: 2018 2023				
Periods included: 6				
Cross-sections included: 19				
Total panel (unbalanced) observations: 74				
Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	1.594400	1.830048	0.871234	0.3878
X1	-2.054100	1.904318	-1.078654	0.2859
X2	0.158685	0.201812	0.786301	0.4354
X3	0.114465	0.023504	4.870013	0.0000
With	-1.841813	5.298885	-0.347585	0.7296
X1Z	6.702400	5.560733	1.205309	0.2338
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.783837	Mean dependent var		0.764865
Adjusted R-squared	0.684402	S.D. dependent var		0.600345
S.E. of regression	0.337262	Akaike info criterion		0.920695
Sum squared resid	5.687294	Schwarz criterion		1.667960
Log likelihood	-10.06572	Hannan-Quinn criter.		1.218788
F-statistic	7.882925	Durbin-Watson stat		1.647130
Prob(F-statistic)	0.000000			

Source: Researcher's processed data (2025)

Based on table 8, the value of the coefficient constant can be known, so that it can be formed in the moderation regression equation as follows:

Y (capital structure)= 1.594400-2.0541100X1(goodwill asset)
+0.158685X2(earning volatility)+0.114465X3(financial flexibility)-1,841813 Z (financial market development)+6.702400X1(goodwill asset)* Z (financial market development)

The above equation can be interpreted as follows:

1. The constant value of 1.594400 means that if the goodwill asset (X1), earning volatility (X2) and financial flexibility (X3) moderated by financial market development are worth zero, then the capital structure (Y) will be worth 1.594400 units.
2. The regression coefficient of the goodwill asset variable (X1) moderated by financial market development is 6.702400 when compared to the regression coefficient of goodwill assets before moderated by financial market development (in regression model 1) which is -0.024387, then the regression coefficient in model 2 is larger. This shows that financial market development has the property of strengthening the influence of goodwill assets on capital structure.

1. Uji Hypothesis

a. Determination Test Results (R Squared)

Based on table 4.6, it can be seen that the value of the determination coefficient of R2 is 0.783837 or 78.38%. This shows that asset goodwill, earning volatility, financial flexibility moderated by financial market development are able to explain the value of capital structure of 78.38% while the remaining 21.62% is explained by other variables outside the study.

b. Simultaneous Test Results

The simultaneous test was conducted to test whether the independent variables of goodwill asset (X1), earning volatility (X2), financial flexibility (X3) simultaneously or together have a significant influence on the dependent variable, namely capital structure moderated by financial market development. With the provisions of decision-making, if the prob. (F statistic)

< 0.05 (significance level 5%), then H0 is rejected which means that the independent variables have a significant influence on the dependent variables together. However, if prob. (F statistic) > 0.05 (significance level 5%), then H0 is accepted which means that the independent variables have no influence on the dependent variables together.

Based on table 4.7, it is obtained that the value of prob. (F-statistic) of 0.000000 < 0.05; H0 is rejected which means that simultaneously goodwill assets, earning volatility and financial flexibility have a significant influence on the capital structure by being moderated by financial market development

c. Partial Test Results

A partial test was carried out to determine whether the independent variables of goodwill asset (X1), earning volatility (X2), and financial flexibility (X3) can individually affect the dependent variable, namely the value of the capital structure significantly or not. The provision for partial test decision-making is if the value t is calculated ≥ t table or prob. (p-value) < 0.05 (significance level of 5%), then H0 is rejected which means that the independent variable has a significant influence on the dependent variable partially. However, if the value t is calculated < t table or prob. (p-value) > 0.05 (significance level 5%), then H0 is accepted, which means that the independent variable does not have a significant influence on the dependent variable partially.

Based on table 8 it can be concluded that:

Hypothesis of goodwill asset variables with moderate financial market development

The p.value (sig.) of the goodwill asset variable with moderate financial market development is 0.2338. Because of the prob. (p-value) > 0.05 (significance level of 5%) or 0.2338 > 0.05, then H0 is accepted and the conclusion is obtained that the goodwill asset does not have a significant influence on the value of the capital structure by moderating financial market development.

2. Classification of Moderation variables

Based on table 4.7 above, the variables of financial market development moderation can be classified as follows:

a. Moderation of financial market development of capital structure

1) The p-value (sig.) of the financial market development variable (Z) is 0.7296 Because the prob (p-value) value is > 0.05 (significance level of 5%) or 0.7296 > 0.05, it is concluded that financial market development does not have a significant influence on the capital structure
2) The p-value (sig.) of the goodwill asset variable (X1) moderated by financial market development (Z) is 0.2338 Because the prob value (p-value) is > 0.05 (significance level of 5%) or 0.2338 > 0.05, it is concluded that financial market development does not have a significant influence on the capital structure.

   Because the output of the moderator variable (Z) with the dependent variable (Y) is not significant and the output of the moderator variable (Z) with the dependent variable (X) is also

insignificant, financial market development has a type of homologiser moderation (potential moderation).

Discussion

The Significant Influence of Goodwill Assets on Capital Structure

Based on the results of the hypothesis test, it shows that the goodwill asset (X1) has a probability value of 0.8230, meaning it is greater than the significance value of 0.05 with a positive coefficient. This proves that goodwill assets do not have a significant influence on the capital structure. This means that any increase or decrease in goodwill assets does not have a significant influence on the capital structure in the transportation and logistics sub-sector. Therefore, H1 on the influence of goodwill assets on capital structure is not proven in this study. Investors in Indonesia still do not see goodwill assets as one of the criteria for determining additional loan allocation for companies in the transportation and logistics sector. This is due to the lower market capitalization value compared to the total assets of transportation and logistics companies. This high total asset includes a large retained earning component and is not included in the market capitalization calculation.

This research is not in line with the research conducted by Matemilola & Ahmad (2015) which has proven that goodwill assets have a significant positive influence on capital structure.

The Significant Effect of Earning Volatility on Capital Structure

Based on the results of the hypothesis test, it shows that earning volatility (X2) has a probability value of 0.2912, which means that it is greater than the significance value of 0.05 with a positive coefficient. This proves that earning volatility does not have a significant influence on the capital structure. This means that any increase or decrease in earning volatility does not have a significant effect on the capital structure in the transportation and logistics sub-sectors. Therefore, H1 on the effect of earning volatility on capital structure is not proven in this study.

Transportation and logistics companies that have high earning volatility in Indonesia do not make investors reluctant/afraid to invest. This is shown at PT. Express Trasindo Utama, Tbk in the 2021 period, although the amount of revenue in 2021 decreased compared to 2020, the number of shares traded was getting larger, leading to an increase in the nominal amount of share capital on the equity side on the balance sheet.

This research is not in line with the research conducted by Alipour et al. (2015) which has proven that earning volatility has a significant negative influence on capital structure.

Significant Influence of Financial Flexibility on Capital Structure

Based on the results of the hypothesis test, it shows that financial flexibility (X3) has a probability value of 0.0000, meaning that it is smaller than the significance value of 0.05 with a positive coefficient. This proves that financial flexibility has a significant influence on the capital structure. This means that any increase or decrease in financial flexibility has a significant

influence on the capital structure in the transportation and logistics sub-sector. Therefore, H1 about the influence of financial flexibility on capital structure is proven in this study.

Companies with high financial flexibility tend to have a fairly low proportion of debt. This is shown in the company PT Samudera Indonesia which experienced an increase in financial flexibility in 2022 compared to 2021 and experienced a decrease in capital structure. This is in line with the pecking order theory which states that the company will prioritize retained earnings / internal funding first to finance its expansion plans and then think about options through debt/external funding.

This research is in line with research conducted by Alipour et al. (2015) and Putri & Willim (2024) which has proven that earning volatility has a significant influence on capital structure.

Partial influence of goodwill asset variables on capital structure moderated by financial market development

Based on the results of the hypothesis test, it shows that the interaction between goodwill assets (X1) and financial market development (Z) has a probability value of 0.2338, which means that it is greater than the significance value of 0.05 with a positive coefficient. The results of the regression test show that goodwill assets do not have a significant influence on the capital structure by being moderated by financial market development. The output output of financial market development on the capital structure is not significant, and the output output of goodwill asset interaction with financial market development is also not significant. Therefore, financial market development as a moderation homologizer has the potential to weaken the influence of goodwill assets on financial market development.

Financial market development does not moderate the influence of goodwill assets on capital structure because investors in Indonesia still do not see goodwill assets as one of the criteria for determining additional loan allocation for companies in the transportation and logistics sector despite the increase in financial market development which actually has the potential to reduce information asymmetry. This is due to the lower market capitalization value compared to the total assets of transportation and logistics companies. This high total asset includes a large retained earning component and is not included in the market capitalization calculation. In addition, several transportation and logistics companies have experienced a decrease in the level of capital structure despite an increase in financial market development. This indicates that the management of transportation and logistics companies in determining the mix of capital structure does not pay attention to macroeconomic factors, one of which is financial market development, but internal factors, especially aspects of financial performance.

Financial market development did not significantly moderate the influence of goodwill assets on capital structure in the transportation and logistics sectors, but simultaneously financial market development significantly moderated the influence of goodwill assets and other independent variables in this study on capital structure

This research is not in line with research conducted by Thakur et al. (2024) which has proven that financial market development moderates the influence of goodwill assets on capital structure.

CONCLUSION

The results of this study conclude that goodwill assets and earning volatility do not have a significant effect on the capital structure of transportation and logistics companies, while financial flexibility shows a significant and consistent influence. However, when examined simultaneously, goodwill assets, earning volatility, and financial flexibility collectively have a significant effect on capital structure. Additionally, financial market development does not significantly moderate the relationship between goodwill assets and capital structure, indicating that macroeconomic conditions, in this case, do not strengthen the predictive power of goodwill in capital decisions. Based on these findings, future researchers are encouraged to expand the scope of analysis by including other intangible assets or alternative moderating variables such as corporate governance quality or investor confidence. Moreover, conducting comparative studies across different sectors or countries could help validate whether these relationships are context-specific or generalizable across markets.

REFERENCES

Acedo-Ramírez, M. A., & Ruiz-Cabestre, F. J. (2014). Determinants of capital structure: United Kingdom versus continental european countries. *Journal of International Financial Management and Accounting*, *25*(3). https://doi.org/10.1111/jifm.12020

Alipour, M., Mohammadi, M. F. S., & Derakhshan, H. (2015). Determinants of capital structure: An empirical study of firms in Iran. *International Journal of Law and Management*, *57*(1). https://doi.org/10.1108/IJLMA-01-2013-0004

Az-Zahra, K., & Yunita, I. (2022). Analisis Perbandingan Kinerja Keuangan Sebelum dan Saat Pandemi COVID-19 Pada Perusahaan Properti. *Jurnal Ilmia MEA*, *6*(3).

Bancel, F., & Mittoo, U. R. (2011). Financial flexibility and the impact of the global financial crisis: Evidence from France. *International Journal of Managerial Finance*, *7*(2). https://doi.org/10.1108/17439131111122157

Çam, İ., & Özer, G. (2022). The influence of country governance on the capital structure and investment financing decisions of firms: An international investigation. *Borsa Istanbul Review*, *22*(2). https://doi.org/10.1016/j.bir.2021.04.008

Fauzia, A. I., & Yunita, I. (2022). Analisis Kinerja Reksadana Pada Sebelum dan Saat Pandemi Yang Terdaftar di OJK Periode Tahun 2019-2020. *SEIKO: Journal of Management & ...*, *4*(3).

Fernandes, V., Kuzey, C., Uyar, A., & Karaman, A. S. (2023). Board structure policy, board diversity and social sustainability in the logistics and transportation sector. *International Journal of Physical Distribution and Logistics Management*, *53*(1). https://doi.org/10.1108/IJPDLM-09-2021-0415

Guizani, M. (2020). The capital structure of islamic-compliant firms: Is there a financing hierarchy? *Asian Academy of Management Journal of Accounting and Finance*, *16*(2). https://doi.org/10.21315/aamjaf2020.16.2.6

Gunasekaran, A., Subramanian, N., & Papadopoulos, T. (2017). Information technology for competitive advantage within logistics and supply chains: A review. *Transportation Research Part E: Logistics and Transportation Review*, *99*, 14–33.

Herdiana, S. C., Rahmawati, I. Y., Tubastuvi, N., & Utami, R. F. (2023). Analysis of Corporate Financial Performance in Indonesia's Transportation and Logistic Sector. *Asian Journal of Economics, Business and Accounting*, *23*(24). https://doi.org/10.9734/ajeba/2023/v23i241194

Herold, D. M., & Lee, K. H. (2017). Carbon management in the logistics and transportation sector: an overview and new research directions. In *Carbon Management* (Vol. 8, Issue 1). https://doi.org/10.1080/17583004.2017.1283923

Hirdinis, M. (2019). Capital structure and firm size on firm value moderated by profitability. *International Journal of Economics and Business Administration*, *7*(1). https://doi.org/10.35808/ijeba/204

Kontuš, E., Šorić, K., & Šarlija, N. (2023). Capital structure optimization: a model of optimal capital structure from the aspect of capital cost and corporate value. *Economic Research-Ekonomska Istrazivanja* , *36*(2). https://doi.org/10.1080/1331677X.2022.2147565

Kuzey, C., Fritz, M. M. C., Uyar, A., & Karaman, A. S. (2022). Board gender diversity, CSR strategy, and eco-friendly initiatives in the transportation and logistics sector. *International Journal of Production Economics*, *247*. https://doi.org/10.1016/j.ijpe.2022.108436

Matemilola, B. T., & Ahmad, R. (2015). Debt financing and importance of fixed assets and goodwill assets as collateral: dynamic panel evidence. *Journal of Business Economics and Management*, *16*(2). https://doi.org/10.3846/16111699.2013.772916

Naser, A. & Ariffin, B & Matemilola, B.T. (2024). Cash flow volatility and capital structure in MENA and Africa: the moderating role of fixed assets. Cogent Economics& Finance 2024, Vol.12, No.1, 2373255

Prakash, N., Maheshwari, A., & Hawaldar, A. (2023). The impact of Covid-19 on the capital structure in emerging economies: evidence from India. *Asian Journal of Accounting Research*, *8*(3). https://doi.org/10.1108/AJAR-05-2022-0144

Prekazi, Y., Bajrami, R., & Hoxha, A. (2023). The impact of capital structure on financial performance. *International Journal of Applied Economics, Finance and Accounting*, *17*(1). https://doi.org/10.33094/ijaefa.v17i1.1002

Putri, R. L., & Willim, A. P. (2024). Analysis of the effect of assets structure, earning volatility and financial flexibility on capital structure in consumer goods industry sector companies on the Indonesia stock exchange. *LBS Journal of Management & Research*, *22*(1). https://doi.org/10.1108/lbsjmr-11-2022-0069

Thakur, O. A., Tunde, M. B., Noordin, B. A. A., Alam, M. K., & Prabowo, M. A. (2024). The relationship between goodwill and capital structure and the moderating effect of financial market development. *Journal of Economics, Finance and Administrative Science*, *29*(57). https://doi.org/10.1108/JEFAS-04-2022-0107

Wayan Widnyana, I., Gusti Bagus Wiksuana, I., Artini, L. G. S., & Sedana, I. B. P. (2021). Influence of financial architecture, intangible assets on financial performance and corporate value in the Indonesian capital market. *International Journal of Productivity and Performance Management*, *70*(7). https://doi.org/10.1108/IJPPM-06-2019-0307