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The Influence of Macroeconomics as a Determinant of Capital Structure in Information Technology Companies Listed on the Indonesia Stock Exchange

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ABSTRACT

This study aims to analyze the influence of macroeconomic variables as determinants of the capital structure of information technology companies listed on the Indonesia Stock Exchange. The population for this study consists of information technology sector companies listed on the Indonesia Stock Exchange between 2020 and 2023. The research sample was obtained using a purposive sampling method, totaling 22 companies. The capital structure is proxied by the Debt to Equity Ratio (DER). The determinants of the capital structure in this study include inflation, gross domestic product growth, interest rates, and profitability. Based on the results of the fixed effects panel regression analysis, it was found that macroeconomic variables such as GDP, inflation, interest rates, and exchange rates do not have a significant impact on the capital structure of companies in this industry. GDP, inflation, and interest rates do not show a significant influence on the capital structure of information technology companies. This suggests that capital structure decisions in this industry are more influenced by other factors. The information technology industry may be more affected by market dynamics, technological innovation, access to equity funding, and unique management strategies. The negative average profitability indicates that companies in this industry face significant financial challenges, but this does not directly affect their capital structure.

Keywords: capital structure, information technology, panel regression

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INTRODUCTION

Until the end of 2021, stock trading activities continued to show positive growth, as reflected in the performance of the Jakarta Composite Index (JCI), which maintained a stable upward trend compared to the third quarter. For instance, as of December 29, 2021, the JCI stood at 6,600.68, reflecting a year-to-date (YTD) increase of 10.40 percent. Specifically, in the fourth quarter, on November 22, 2021, the JCI reached a new record at 6,723.39, surpassing pre-pandemic levels. Alongside this, the stock market capitalization as of December 29, 2021, reached IDR 8,275 trillion, or an 18.72 percent increase. Trading activities also set new records, with the highest daily transaction frequency occurring on August 9, 2021, at 2.14 million transactions, the highest daily trading volume reaching 50.98 billion shares on November 9, 2021, and peak market capitalization reaching IDR 8,354 trillion on December 13, 2021.

On the supply side, the Financial Services Authority (OJK) reported an increase in the number of new issuers and public offering activities compared to the end of 2020. As of December 29, 2021, OJK issued Effective Statements for Registration Statements for 192 issuances, including 52 Initial Public Offerings, 6 Debt Securities and/or Sukuk Public Offerings, 44 Limited Public Offerings, 37 Stage I Continuous Public Offerings of Debt Securities and/or Sukuk, and 53 Stage II Continuous Public Offerings of Debt Securities and/or Sukuk. The total value of funds raised from these public offerings amounted to IDR 358.43 trillion. Among the 192 public offering activities in 2021, 55 came from new issuers. On the demand side, OJK observed a significant increase in the number of capital market investors throughout 2021. As of December 29, 2021, the number of investors reached 7.48 million, marking a substantial 92.70 percent increase compared to the end of 2020, which recorded only 3.88 million investors. This figure represents an almost sevenfold increase compared to the end of 2017. This indicates positive growth in the capital market, prompting decision-makers to determine the types of financing that need to be pursued—decisions that significantly affect a company's value.

The choice of alternative funding sources is a crucial decision for businesses, given its implications for long-term financing costs. A company’s capital structure, particularly the proportion of debt in its long-term financing sources, is shaped by the decision to leverage debt for investment financing (Frank & Goyal, 2021). Questions surrounding capital structure remain a subject of research due to its direct impact on a company's performance and risk. The rapid development of businesses today creates intense competition among companies. In facing these conditions, companies are driven to expand their operational activities to increase the profits generated. Over time, businesses fundamentally undergo patterns of change and continuous development (Prihanto & Damayanti, 2022).

Capital structure decisions are influenced by the company's economic environment and conditions. The internal and external environment includes the general economy (macroeconomics) (Nguyen, 2022). Microeconomics relates to financial factors that can be controlled and managed directly or indirectly. These microeconomic variables include profitability, ownership structure, tax savings, company size, company growth, and total tangible assets (Titman, 2021). Meanwhile, macroeconomics involves economic and monetary conditions in the company's operating environment. Economic and monetary conditions are market financial factors that directly impact capital costs. Interest rates,

inflation, exchange rates, and economic growth are macroeconomic indicators that influence capital structure decisions, particularly in the context of economic growth (Brigham& Ehrhardt, 2021).

Although extensive research has been conducted on capital structure, the results remain inconclusive. Generally, these studies have not produced consistent findings, and variations can be attributed to differences in economic environments during the study period. The results imply that the effectiveness of capital structure policies depends on the prevailing economic conditions at the time the decision is made. Different economic circumstances and environments require different policies. Furthermore, the factors influencing capital structure policies are diverse, with researchers using different variables and fundamental considerations, resulting in varying outcomes. According to Myers and Brealey (2020), there is no universally applicable concept of capital structure. Each theory is only suitable for certain conditions. If the environment changes, policies must be adjusted. Each factor may be dominant in one company or situation but may be less significant for others (Myers and Brealey, 2020). According to Harris and Raviv (2021), debt utilization is directly related to the amount of fixed assets, non-debt tax shield savings, growth opportunities, and company size. This implies that fixed assets, tax benefits, growth opportunities, and company size all positively impact capital structure. Conversely, stock price volatility, advertising costs, R&D costs, bankruptcy probability, and product uniqueness all negatively impact capital structure (Harris & Raviv, 2021).

Organizations produce products to sell in the market to generate profit. Creative processes and negotiation can be applied to increase profits, but cost oversight is needed during product creation (Putu et al., 2023). The Debt-to-Equity Ratio is a common indicator used in solvency ratio calculations, which describe a company's ability to meet obligations with its assets (Rahmadi, 2020). Profitability reflects an entity's ability to generate profit within a period (Setiawan et al., 2022). Investors are interested in profitability because a company's performance affects its reputation, which in turn influences investors' interest in investing, as the company’s income or profit will be distributed to shareholders as dividends (Widjanarko & Safitri, 2020). Profitability analysis is conducted through ratio calculations that indicate the company’s efficiency in generating profit concerning specific sales, assets, and share capital levels (Noveliza & Crismonica, 2021). Profitability, according to Harahap (2014) as cited by Nurdiana (2018), refers to a company's ability to generate profit from all available resources, including sales activities, cash assets, capital, or the number of employees. Through profitability, a company's ability to effectively manage its resources to achieve optimal profit within a certain period can be evaluated (Mayasari & al musfiroh, 2020). Profitability shows an entity's ability to achieve profit within a specific period. The larger the profit generated from the company's activities, the more it is expected that the company can implement corporate social responsibility, which ultimately can increase investor confidence in the company (Damayanty et al., 2021). Profit information in financial statements is crucial for management, requiring an accounting process that aligns with expectations and certain conditions (Damayanty & Murwaningsari, 2020).

Deesomsak et al. (2004) conducted research in four Asia-Pacific countries—Malaysia, Thailand, Singapore, and Australia—to identify factors influencing capital structure policies in diverse economic environments. The findings revealed that the determinants of capital structure in each country differ, highlighting the influence of the

macroeconomic environment in which companies operate. Significant variations include capital market activity, interest rates, investor protection regulations, and ownership concentration. Despite these differences, the study identified similarities in the factors determining capital structure across the four countries. For example, company size was found to have a positive effect on capital structure, while factors such as company growth, non-debt tax shields, and liquidity had a negative impact (Deesomsak et al., 2004). Datta and Agarwal (2021) expanded on this empirical evidence by studying companies in India, particularly during periods of economic growth. The study showed a tendency for companies to rely on internal funding sources to meet operational needs. Specific findings included the negative impact of profitability, company size, and non-debt tax shields on capital structure, while growth opportunities and tangible assets had a positive impact (Datta & Agarwal, 2009).

Conversely, Frank and Goyal (2021) focused on variables consistently influencing capital structure, examining American companies from 1950 to 2003. The study identified six factors that consistently influenced capital structure policies: average industry leverage, tangible assets, profitability, company size, inflation, and the market-to-book ratio (Frank, Murray Z, Goyal, 2022). Notably, the market-to-book ratio was the only factor among the six to have a negative impact on capital structure, while the others had a positive impact. De Angelo and Masulis (1980) contributed empirical evidence regarding the influence of macroeconomic environmental factors on capital structure policies (DeAngelo, H., & Masulis, 1980). They demonstrated that inflation could theoretically encourage the use of debt because it becomes relatively cheaper, a finding supported by Kim and Wu (1988). Additionally, Damodaran (2009) found in his research that interest rates, exchange rates, and inflation all impact capital structure policies (Damodaran, 2009). The presented empirical evidence indicates that management considers macroeconomic factors when determining capital structure. These observations, coupled with the impact of capital structure decisions on company risk, motivate researchers to further investigate the factors management considers when formulating capital structure policies.

LITERATURE REVIEW

Capital Structure refers to a company's strategy in selecting funding sources to finance its investment operations. This funding can be sourced internally, such as through retained earnings, or externally through the issuance of equity (stocks) or debt (bonds). The decision to choose alternative sources of capital is highly complex due to the long-term financial implications that impact the company's risk and performance. As a result, management must carefully consider these factors before deciding on a capital structure policy.

Regarding the use of debt, Stiglitz (1969) argued that corporations have an optimal level of debt and strive to adjust their debt levels toward this optimum, whether they are over-leveraged or under-leveraged. Under stable conditions, corporations will align their debt levels with the long-term average debt ratio. This adjustment is driven by factors such as the benefits of tax savings, which encourage the use of debt, and the costs associated with financial distress, which discourage its use. The optimal point is achieved by balancing these factors. Additionally, it is emphasized that the relationship between

the company's profit level and the taxes payable is unidirectional. Consequently, companies have an incentive to reduce corporate taxes by increasing debt.

Jensen and Meckling (1976) presented a different perspective. According to them, a factor that can increase a company's debt is the utilization of the company's free cash flow. This strategy is designed to prevent managers from unnecessarily using company funds, such as expanding facilities, when the business has a surplus of net cash (e.g., cars, offices, company housing) or investing in ventures that do not generate revenue for the company's owners. In such situations, managers are incentivized to increase debt, allowing cash flow to be directed toward interest payments, leading to tax savings for the company (due to tax deductions).

However, excessive debt increases the risk of financial distress. By using some of its assets to meet obligations, the company may miss out on investment opportunities. Moreover, if the company turns to new external funding sources, this could incur higher capital costs, as investors anticipate a higher likelihood of default. In such cases, the company may forgo investment opportunities, even if the opportunities have a favorable Net Present Value (NPV). This situation underscores the importance of achieving an optimal point—a balance between the company's benefits and costs at a balanced debt level.

Conceptually, it is possible to differentiate between microeconomic and macroeconomic environments concerning the elements that influence capital structure policy. Microeconomics pertains to the internal conditions of a company that can be directly or indirectly controlled (controllable). Factors such as profitability, ownership structure, tax savings, and company size fall within the realm of internal conditions that can be influenced by management. Additional metrics, including company growth and total fixed assets, are also analyzed at the microeconomic level.

Conversely, Macroeconomics refers to economic and monetary conditions that cannot be directly regulated by management (uncontrollable). However, these variables have a direct impact on the financial markets where companies seek funding sources. Macroeconomic factors include interest rates, inflation, unemployment, exchange rates, and economic growth. To achieve the company's goal of enhancing value, it is crucial to consider both microeconomic and macroeconomic aspects when designing the capital structure.

The following discussion provides a detailed explanation of the logical relationships between the determinants of capital structure:

1. Influence of Interest Rates on Capital Structure

Interest rates are typically used as a measure of the cost of capital incurred to obtain funds from capital owners (creditors). This cost is known as the loan interest (Iswardono, 1999). Consequently, the interest rate represents the price that individuals in need of money (debtors) are willing to pay, determined by the money and capital markets.

From a company's perspective, the interest rate is a component of the company's cost of capital. An increase in interest rates represents an additional cost burden for the company. As a result, when interest rates rise, management adjusts the capital structure to mitigate the increasing financial burden.

Empirical evidence from Kim and Wu (1988), Damodaran (1997), and others highlights the relationship between interest rates and capital structure. Graham and

Harvey (2001) noted that bond issuance is more common when interest rates are low. In their research, Barry et al. (2010) found that corporate debt issuance most frequently occurs during periods of declining interest rates, supporting earlier research by Kim Wu (1998). The first hypothesis is proposed based on the logical relationship and empirical evidence explained below.

Hypothesis 1: Interest rates have a negative impact on capital structure.

2. Influence of Inflation on Capital Structure

Inflation is an economic indicator that shows a continuous decline in the general value of money relative to the price of goods (Sukirno, 2000). A rise in the price of goods compared to the value of money can be interpreted as a decrease in the real interest rate. Under these conditions, management is encouraged to utilize debt because it becomes cheaper in real terms. De Angelo and Masulis (1980) provided empirical evidence of the relationship between capital structure and inflation. According to their research findings, inflation has a positive effect on debt utilization. This suggests that companies tend to utilize debt when inflation rates are high, as the cost of capital is lower in real terms. Similar findings were observed by Frank and Goyal (2003) and Bokpin (2009). The second hypothesis is proposed based on the logical relationship between inflation and capital structure, as explained below.

Hypothesis 2: Inflation has a positive impact on capital structure.

3. Influence of GDP on Capital Structure

Economic growth refers to an increase in the standard of living over time, resulting from rising income levels that allow people to consume a greater variety of goods and services (Mankiw, 2003). Economists use GDP data to measure economic growth by calculating the total income of everyone in the economy.

There is a logical and positive reciprocal relationship between economic growth and investment levels. Higher economic growth increases the share of income that can be saved, facilitating greater investment. Simultaneously, a country's economic growth potential is influenced by its investment levels, creating a reciprocal relationship. From a company's perspective, economic growth signifies increased purchasing power, positively impacting performance and encouraging investment growth.

Kim and Wu (1988) and Damodaran (1996) provided empirical evidence that external factors, such as interest rates, exchange rate changes, inflation levels, and economic growth, influence funding decisions. Gertler and Gilchrist (1993) found that aggregate debt issuance correlates with recessions and monetary contractions. Rajan and Zingales (1995) explained in their study that a country's economic growth impacts its economy. Singh (2007) argued that capital structure policy adjusts to changes in economic conditions, with companies aligning their capital structures with the level of economic growth.

Hypothesis 3: GDP has a positive impact on capital structure.

4. Influence of Profitability on Capital Structure

Empirical studies generally find a negative relationship between profitability and leverage (Byoun, 2008a; Titman, S., and Wessels, 1988; Toy et al., 1974). In other words, an increase in profitability can reduce leverage. According to Frank and Goyal (2019), the equity market is more willing to finance less profitable companies but with good growth prospects. Thus, these empirical findings are consistent with the pecking order hypothesis and inconsistent with trade-off theory. However, Frank and Goyal (2021) argue that profitability can be considered a proxy for growth opportunities, and its negative sign is consistent with trade-off theory predictions. Additionally, dynamic trade-off theory acknowledges that leverage and profitability can be negatively correlated due to various market frictions (Strebulaev, 2022).

Hypothesis 4: Profitability has a negative impact on capital structure.

RESEARCH METHOD

Sample and Population

The subject of this research is the technology industry companies listed on the Indonesia Stock Exchange (IDX). The population for this study consists of companies in the technology sector that were listed on the IDX between 2020 and 2023. The selected period considers the economic stability in Indonesia, ensuring the availability of reliable data.

Purposive sampling was employed in this research, using the following criteria:

1. Companies that consistently and regularly present financial reports from 2020 to 2023.
2. Companies whose stocks were actively traded on the stock exchange throughout the period.

The data used is panel data from all companies that meet the above criteria. Based on the established criteria, 21 companies were found to meet the requirements. The Fixed Effects Model for Panel Data was used as the statistical method. The dependent variable is the capital structure (DER), calculated as total liabilities divided by total equity. The independent variables include Inflation (INF), Gross Domestic Product (GDP), Interest Rates (INT), and Profitability (PRF).

Variable Measurement

To emphasize the concept of variables, this research uses proxies and variable measurements based on concepts employed by previous researchers; this approach ensures the scientific rigor of the study. The proxies and variable measurements used in this research are presented in Table 1 below.

Table 1. The Proxies And Variable Measurements

Variable	Formulation	Reference
Independent Variable		
1) Inflation	Consumer Price Index Percentage Inflation has a positive effect on capital structure.	Nguyen (2022), Brigham & Ehrhardt (2021)
2) GDP	Real Gross Domestic Product (GDP) Growth Rate GDP has a positive effect on capital structure.	Yeboah, M., Yeboah, B. Y., & Atuahene, S. O. O. (2024), Yılmaz & Aslan, 2020
3) Interest rate	Interest Rates Charged by Banks to Customers Interest rates have a negative effect on capital structure.	Nguyen, T. M., & Tran, Q. H. (2022), Yeboah, M., Yeboah, B. Y., & Atuahene, S. O. O. (2024),
4) Profitability	$Profitability_{tij} = \frac{EBIT_{tij}}{Total\ Asset_{tij}}$	Frank, M. Z., & Goyal, V. K. (2021), Bensaadi, I., Adnan, & Albra, W. A. (2023)
Capital Structure Proxy		
DER	$\frac{Total\ Liabilities}{Total\ Equity}$	Brigham, E. F., & Ehrhardt, M. C. (2021), Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2022)

The data was sourced from www.financialprep.com, and data processing was conducted using Stata. The equation model was developed based on a literature survey as follows:

$$DER_{i,t} = \theta_0 + \theta_1 PRF_{i,t} + \theta_2 INF_t + \theta_3 GDP_t + \theta_4 INT_t + \mu_{it}$$

With :

DER i,t = Debt to Equity Ratio, the proxy for the capital structure of company i in year t.

$PRf_{i,t}$ = Profitability of company i in year t

INF_t = Inflation year t

GDP_t = Produk Domestik Bruto year-t

INT_t = Interest Rate year-t

RESULTS AND DISCUSSION

Data summary

Descriptive statistics provide an overview of the data used in this study, including the mean, median, standard deviation, maximum, and minimum values of each variable analyzed. The data encompasses several macroeconomic variables and the capital structure of technology industry companies listed on the Indonesia Stock Exchange. These details can be seen in Table 2 below.

Table 2. Statistic Descriptive

Variable	Obs	Mean	Std. Dev.	Min	Max
der	88	.3404517	.2161132	.0281898	.7880081
prof	88	-12.51856	98.79792	-924.7933	.6274127
inflasi	88	2.9175	1.545383	1.68	5.51
pdb	88	7.3775	6.514901	-2.46	15.38
suku	88	4.6875	1.086919	3.5	6

Specific Analysis

The average Debt Equity Ratio (DER) of 0.3404517 means that, on average, for every Rp1 of equity owned by the company, there is Rp0.3404517 of debt. The implications of this DER value are as follows:

1. Low Leverage: A DER of 0.3404517 indicates that companies in the technology industry listed on the Indonesia Stock Exchange tend to have low leverage. This means these companies rely more on equity than debt to finance their assets and operations.
2. Financial Risk: Low leverage is typically associated with lower financial risk, as the company does not heavily depend on debt that needs to be repaid with interest. This can provide greater financial stability, especially in uncertain economic conditions.
3. Investor Confidence: Investors might view a low DER as a sign that the company has conservative financial management and is cautious about taking on debt. This can enhance investor confidence in the company.
4. Cost of Capital: A higher use of equity compared to debt can reduce the interest costs the company has to pay, though it might also mean that the overall cost of capital could be higher compared to using more debt (since equity cost is usually higher than debt cost).
5. Borrowing Capacity: With a low DER, the company may have the capacity to take on more debt in the future if needed for expansion or investment, as they are not heavily burdened by current debt.

Overall, an average DER of 0.3404517 suggests that companies in the technology sector on the Indonesia Stock Exchange tend to have a relatively conservative capital structure with low leverage. Based on Table 2, the average inflation rate of 2.9175% is a moderate figure and is often considered a healthy inflation rate in many economies, indicating economic growth without excessive price pressures. The average profitability of -12.51856 indicates that, overall, companies in the technology sector listed on the Indonesia Stock Exchange are experiencing losses. This value, typically expressed as a percentage, shows that companies on average are losing 12.51856% of their total revenue. The implications of this negative profitability are:

1. Negative Profitability: This means that the company's revenue is insufficient to cover its operating costs. This could be due to various factors, including declining sales, increased costs, or a combination of both.

2. Operational Efficiency Issues: Negative profitability indicates operational inefficiencies. The company may need to reassess its operations to find ways to cut costs or increase revenue.
3. Long-Term Viability: Continued losses may threaten the company's long-term viability. The company needs to take steps to reverse this trend and achieve positive profitability.
4. Investor Perception: Negative profitability can affect investor perception and stock prices. Investors tend to be cautious about investing in loss-making companies, which can affect the company's ability to raise additional funds.
5. Strategic Actions: Management needs to take strategic actions to address these losses, such as restructuring the business, reducing costs, improving efficiency, or finding new revenue sources.
6. Industry Challenges: In the macroeconomic context, negative profitability in the technology sector could indicate broader challenges in the industry, such as technological changes, intense competition, or shifts in market demand.

Overall, an average profitability of -12.51856 signifies that companies in the technology sector listed on the Indonesia Stock Exchange are generally facing significant financial challenges and need strategic measures to improve their financial condition. The average GDP (Gross Domestic Product) growth rate of 7.3775% indicates that, on average, the economy (in this case, Indonesia) experienced growth of 7.3775% during the analyzed period. GDP measures the total value of goods and services produced by a country over a specific period, usually a year, and GDP growth is a crucial indicator of a country's economic health. The implications of an average GDP growth of 7.3775% are:

1. Strong Economic Growth: This figure indicates that the Indonesian economy is growing robustly. A GDP growth rate of 7.3775% is relatively high and signifies significant economic expansion.
2. Increased Standard of Living: Strong GDP growth often leads to higher per capita income, which can improve the standard of living. This means that, generally, people have more income to spend or save.
3. Employment Opportunities: High GDP growth typically creates more job opportunities. Expanding businesses tend to increase their operations and require more workforce.
4. Investment Attraction: High GDP growth can attract more investment, both domestic and foreign. Investors are drawn to rapidly growing markets with higher potential returns.
5. Government Revenue: Increased GDP usually leads to higher tax revenues for the government, which can be used to fund various programs and development projects.
6. Inflation Risks: While high GDP growth is generally positive, it can also lead to inflation if demand for goods and services exceeds economic production capacity. The government and central bank need to monitor and manage inflation.
7. Economic Policy Adjustments: The government might adjust its economic policies based on GDP growth. For example, policies might focus on encouraging sustainable and inclusive growth.

Overall, an average GDP growth rate of 7.3775% is a positive indicator of Indonesia's economic performance during the analyzed period. It suggests that the economy is expanding rapidly, providing various benefits to society and investors.

The average interest rate of 4.6875% means that during the analyzed period, the average interest rate in Indonesia was 4.6875%. This interest rate typically refers to the benchmark rate set by the central bank (Bank Indonesia) or the average rate charged by commercial banks for loans. The implications of an average interest rate of 4.6875% are:

1. Cost of Borrowing: This rate reflects the cost of borrowing in Indonesia during the period. With an average rate of 4.6875%, the cost of borrowing for individuals or companies is approximately 4.6875% per year.
2. Investment Incentives: A moderate interest rate can encourage investment by both companies and individuals. Lower borrowing costs can boost investment in various projects and ventures.
3. Consumption: Moderate interest rates can also promote consumption. Consumers may be more likely to take out loans for significant purchases, such as homes or cars, due to lower interest costs.
4. Savings Incentives: Interest rates affect incentives to save. Lower rates can reduce the returns on savings, leading people to spend or invest their money rather than saving.
5. Monetary Policy Tool: Interest rates are a primary tool used by the central bank to control inflation. Higher rates tend to reduce inflation by making borrowing more expensive, while lower rates can increase inflation by boosting demand.
6. Monetary Policy Indication: An average rate of 4.6875% reflects the monetary policy applied by Bank Indonesia during the period. It could indicate efforts to balance economic growth and inflation control.
7. Economic Stability: A moderate interest rate suggests relative economic stability. Extremely low rates might signal attempts to stimulate the economy during a recession, while high rates could indicate efforts to control high inflation.

Overall, an average interest rate of 4.6875% reflects borrowing costs and monetary policy during the period, with broad impacts on investment, consumption, savings, and economic stability.

Regression Analysis

Regression Analysis is used to examine the impact of macroeconomic variables on a company's capital structure. The resulting regression model can be seen in Table 3 as follows:

Table 3. Model of the Impact of Macroeconomic Variables on Company Capital Structure

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. xtreg der prof pdb inflasi suku, be

Between regression (regression on group means)  Number of obs      =        88
Group variable: No                              Number of groups   =        88

R-sq:  within  =      .                         Obs per group: min =         1
       between = 0.1626                                        avg =       1.0
       overall = 0.1626                                        max =         1

                                                F(4,83)            =      4.03
sd(u_i + avg(e_i.))=  .2024781                  Prob > F           =    0.0049
```

der	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
prof	-.0003064	.0002233	-1.37	0.174	-.0007506	.0001378
pdb	-.0012081	.0052473	-0.23	0.818	-.0116448	.0092286
inflasi	-.0306236	.0254511	-1.20	0.232	-.0812448	.0199977
suku	-.0309633	.0256461	-1.21	0.231	-.0819722	.0200457
_cons	.5800133	.0995914	5.82	0.000	.38193	.7780966

The results of the hypothesis test indicate that macroeconomic variables such as GDP, inflation, interest rates, and profitability do not have a significant effect on the company's capital structure. This is evidenced by the p-values greater than 0.05 for all of these variables.

Discussion

1. Effect of Profitability on Capital Structure

The result of this study shows that profitability has an insignificant effect on the capital structure (proxied by DER) of companies in the information technology industry in Indonesia. This finding does not support previous empirical evidence, such as Frank and Goyal (2021), who identified profitability as one of the most reliable determinants of capital structure with a consistently negative relationship. Similarly, Bensaadi et al. (2023) found that profitability negatively affects leverage across both profit-generating and loss-making firms, suggesting that more profitable firms tend to rely less on debt financing.

However, the deviation of this study's findings from those prior results can be attributed to the unique characteristics of the information technology sector in Indonesia, which may weaken the traditional explanatory power of profitability in determining capital structure. Several plausible explanations include:

a) IT companies often experience rapid growth and prioritize market expansion over short-term earnings, opting to finance operations with equity rather than debt, regardless of profitability levels.

b) Many IT firms have access to venture capital and strategic equity funding, where investors are more concerned with long-term growth potential than immediate profits.

c) The high volatility of revenue due to fast-changing technologies and competitive market dynamics makes profitability a less stable or reliable basis for leverage decisions.
d) Substantial R&D investments, which are common in the IT sector, can suppress reported net income while simultaneously enhancing long-term competitiveness—distorting the profitability measure.
e) Capital structure may also reflect managerial preference for financial flexibility or conservative financial policies, especially in high-risk industries like tech, rather than being purely driven by profitability.
f) Broader influences such as macroeconomic policies, global funding access, and regulatory environments might override internal financial indicators when determining capital structure.
g) Some companies also adopt retention-based financing strategies, where retained earnings are prioritized over debt or external equity, not necessarily in line with profitability patterns.

In this context, the insignificance of profitability in affecting DER suggests that Indonesian IT firms may operate in financing environments where traditional capital structure theories—like the pecking order theory—may have limited applicability, or where those decisions are mediated by sector-specific dynamics and growth-oriented strategies.

2. Effect of GDP on Capital Structure

The insignificant effect of GDP on the capital structure of companies in the information technology industry in Indonesia can be due to several factors:

a) The information technology industry has distinct characteristics and dynamics compared to other sectors that might be more sensitive to macroeconomic changes. For example, technological innovation, global competition, and product cycles might have a greater impact on capital structure than the general economic growth measured by GDP.
b) Many technology companies operate globally and derive a significant portion of their revenue from international markets. Thus, they might be more influenced by global economic conditions than by Indonesia's GDP. Domestic GDP growth might not reflect their key market conditions.
c) Technology companies often obtain funding from equity investors, venture capital, or international funding that is less dependent on domestic economic conditions. Thus, their capital structure decisions might be more influenced by equity funding availability than by local GDP growth.
d) Information technology companies frequently have unique business models different from traditional sectors. They might focus more on rapid expansion, market penetration, and new product development rather than on short-term financial performance, which might be influenced by GDP.
e) Industry-specific regulations and government policies might have a more significant impact on capital structure decisions than general macroeconomic conditions. For example, tax incentives, intellectual property protection, and information technology policies could play a crucial role.

f) The capital structure of technology companies might be more affected by capital market conditions and access to equity funding than by general economic growth. A strong and liquid capital market can provide easy access to equity funding regardless of GDP conditions.
g) The technology industry often faces high volatility and uncertainty related to technological innovation and market changes. Companies might choose to maintain high financial flexibility and a conservative capital structure to cope with these uncertainties, which may not always correlate with GDP growth.

3. Effect of Inflation on Capital Structure

The result of this study shows that inflation does not have a significant effect on the capital structure of information technology companies in Indonesia. This finding is not in line with previous empirical evidence and financial theory, particularly the findings of Nguyen (2022) and Brigham & Ehrhardt (2021), who argue that inflation tends to have a positive effect on leverage. According to their perspective, higher inflation reduces the real value of debt repayments, making borrowing more attractive and encouraging firms to increase their debt levels.

However, the absence of a significant relationship in this study can be explained by several contextual and sector-specific factors:

a) Many IT firms prioritize financial flexibility over cost minimization. Even if inflation lowers the real cost of debt, companies in this sector may still be reluctant to increase leverage due to the high level of business risk and volatility.
b) The availability of alternative financing sources such as retained earnings, venture capital, or equity-based funding reduces the reliance on debt, which weakens the inflation-leverage relationship.
c) Inflation may indirectly affect operating costs and pricing strategies in technology companies, but these firms may respond by adjusting product prices or cost structures rather than altering their capital mix.
d) Firms in the technology sector often do not hold large fixed-asset bases that would benefit significantly from inflation-induced asset revaluation, thereby limiting the incentive to increase leverage.
e) The companies might already have hedging strategies or long-term fixed-rate financing that buffer the effect of inflation on financing decisions.
f) Macroeconomic volatility, including inflation uncertainty, could also discourage companies from increasing debt exposure due to the potential rise in real risk premiums demanded by lenders.

In conclusion, while Nguyen (2022) and Brigham & Ehrhardt (2021) emphasize the cost-reducing impact of inflation on real debt burden—thus supporting higher leverage—in the case of Indonesian IT firms, this relationship may be muted by strategic preferences for agility and low leverage, access to non-debt financing, and the unique financial behavior of high-growth, innovation-driven firms.

2. Effect of Interest Rates on Capital Structure

The findings of this study indicate that interest rates do not have a significant effect on the capital structure of information technology companies in Indonesia. This result diverges from prior studies, notably those by Nguyen & Tran (2022) and Yeboah

et al. (2024), which found a negative relationship between interest rates and leverage. According to their findings, higher interest rates increase the cost of borrowing, thereby discouraging firms from using debt and leading to a reduction in leverage.

Several factors may explain why this expected relationship is not observed in the context of the Indonesian information technology sector:

a) Many IT companies in Indonesia may rely on equity financing or internal funds rather than debt, making their capital structure less sensitive to interest rate fluctuations.

b) These firms may have access to long-term financing arrangements with fixed interest rates, reducing the impact of short-term rate changes on financing costs.

c) The relatively low asset tangibility in tech firms (e.g., limited physical collateral) may already limit their access to traditional bank loans, making interest rate variations less relevant.

d) Companies in this sector often adopt growth-oriented financial strategies that prioritize expansion and innovation, regardless of financing costs. Debt may be avoided not just due to cost but also due to the desire to retain flexibility and avoid risk.

e) The role of venture capital, angel investors, and private equity—which are not directly influenced by benchmark interest rates—may reduce reliance on interest-sensitive funding sources.

f) Some firms may intentionally underleverage due to uncertainty in the tech market, preferring to remain agile rather than take on fixed financial obligations.

While Nguyen & Tran (2022) and Yeboah et al. (2024) confirm that interest rates are a critical macroeconomic determinant of capital structure in many industries, especially where debt financing is prevalent, this study suggests that interest rate sensitivity may not be a major concern for firms in the information technology industry. Their unique financing models and lower reliance on debt could explain the lack of significant influence observed in this context.

CONCLUSION

This study aims to analyze the impact of macroeconomic variables as determinants of the capital structure of information technology companies listed on the Indonesia Stock Exchange. Based on regression analysis and hypothesis testing results, it was found that macroeconomic variables such as GDP, inflation, interest rates, and exchange rates do not have a significant effect on the capital structure of companies in this industry.

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