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The Influence of Company Growth, Profitability, Leverage, and Inflation on the Value of Energy Sector Companies

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Abstract
This research aims to determine whether company growth (GPG), profitability (NPM), *leverage* (DER), and inflation (IHK) partially affect company value on the IDX. The period used in this research is three years, starting from 2020-2022. This research uses a quantitative approach and purposive sampling. The population in this research comprises all energy sector companies that were registered on the IDX during the 2020-2022 period. A total of 76 companies were selected as research samples. Data were analyzed using multiple linear regression analysis. The data analysis technique used in analysing data is EViews 13. Based on the results of the data analysis, there is a significant influence of profitability and leverage on company value, and an insignificant influence of company growth and inflation on company value on the Indonesian Stock Exchange.
Keywords: Price to Book Value, Firm Value, Company Growth, Profitability, *Leverage*, Inflation

1. Introduction

Energy sector companies are one of the industrial sectors that excel in supporting a country's economic development because they are providers of energy resources needed to encourage economic growth (Arianti, 2022). 2020, the Composite Stock Price Index weakened due to increased COVID-19 cases. Markets reacted negatively to COVID-19 after the first case was confirmed in Indonesia. The industrial index reached its lowest point in March 2020, signalling a decline in stock prices due to the pandemic. Almost all sectors of the Indonesian stock market have been affected by the pandemic, including the energy sector. However, the IHSG increased again due to improvements in 2021-2022 (Handayani & Oktavia, 2018).

Towards the end of 2022, the most successful sectoral index on the Indonesia Stock Exchange is the energy sector. However, in the fourth quarter of 2022, energy prices will decline slightly due to an increase in the Fed Funds Rate to overcome inflation, an increase in coal production, and a slowdown in the Chinese economy, the attitude of European Union leaders working together to limit fuel prices while reducing Moscow's funds for The invasion of Ukraine caused a decrease in energy prices which also had an impact on domestic prices.

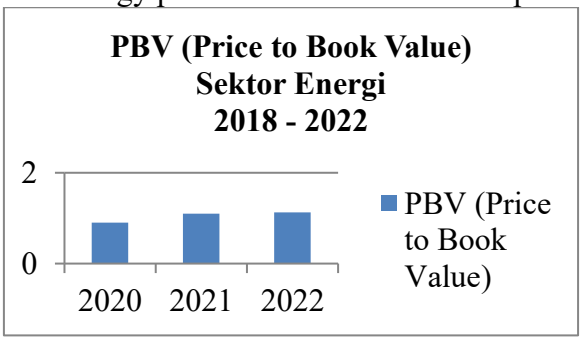

Figure 1. PBV Sektor Energi

76 energy sector companies were listed on the Indonesian Stock Exchange over the last 5 years, from 2020 to 2022. The graph illustrates that the average PBV of companies in the

energy sector was 0.9 times in 2020. Then, the PBV value in 2021 increased to 1.1 times, or 22.22%. Finally, for 2022, the PBV value will be 1.31 times or an increase from 2021 of 2.73%. On average, the value of energy sector companies listed on the Indonesian Stock Exchange is expected to increase in 2020-2022.

A company's advantages are values that attract external parties, especially potential investors who want to invest in the company's shares. The higher the return, the more investors' hopes will be fulfilled in achieving the expected prosperity (Ardatiya, Kalsum, & Kosim, 2022). Increasing share prices will also impact increasing company value, which is a positive signal in the view of external parties to the company (Bagaskara, Titisari, & Dewi, 2021).

Furthermore, according to CNBC.com (Aulia & Feri, 2022), PT. Adaro experienced a 613% increase in net profit from semester I-2021 to semester I-2022. The increase in net profit was due to a 126% rise in operating income in June 2022. According to CNBC (Teti Purwanti, 2023), PT RMK Energy Tbk (RMKE) from the coal sales segment, it managed to sell 2.5 million tons of coal, an increase of 45.1% (y.o.y).

Apart from that, according to CNBC Indonesia (Tri Putra, 2023), several companies have very high DER levels, including the issuer BOSS, or PT Borneo Olah Sarana Sukses Tbk, which ranked fourth in 2022 with a DER percentage of 4,492.53%.

According to the Indonesia Economic Outlook 2023, core inflation will be 3.31% (y.o.y) in October 2022, up from 3.21% (y.o.y) the previous month. The rise in core inflation was mainly driven by higher fuel prices, which directly affected transportation-sector inflation. Core inflation is expected to continue due to adjustments in fuel prices, which indirectly affect food and other commodity prices. The inflation rate for the energy component increased to 16.88% (y.o.y), which was also reflected in the transportation sector inflation of 16.03% (y.o.y) as a second-round effect of adjustments to subsidized fuel prices by the Indonesian Government.

Company growth can affect company value because strong growth signals conditions in which a company can increase its value. If the company's growth is positive and rising, it will mean a considerable company value, which is the hope of the company owner (Marthen & Suwarti, 2023). The results of previous research (Maharani & Mawardhi, 2022) show that company growth has a positive and significant influence on company value. However, research (Yusmaniarti & Dkk, 2021) explains that company growth does not affect company value.

Investors can use this profitability to assess the company and determine how much profit is generated from the funds invested (Nagayu & Mujiyati, 2022). Profitability is a positive signal that can attract investors (Jusriani & Rahardjo, 2013). According to research (Suastika, Sunarwijaya, & Santana putra adiyandnya, 2022), profitability positively and significantly influences company value. However, research results (Ali, Faroji, & Ali, 2021) show that profitability does not affect company value.

Leverage explains how much company assets are financed by debt compared to own capital. *Leverage* becomes essential for investors in making investment decisions because it can affect the company's ability to provide returns to shareholders (Kasmir, 2012). Companies that manage leverage well can increase investor confidence to increase company value (A. S. Putri & Miftah, 2021). Research (Maduma & Naibaho, 2022) shows that leverage negatively and significantly influences company value. However, these results differ from research (Munzir, Andriyan, & Hidayat, 2023), suggesting that leverage does not affect company value.

Inflation is a continuous price increase (Febriana & Sitorus, 2017). Inflation can be caused by various factors, including increased public consumption, excess liquidity in the market, which triggers consumption or speculation, and irregular distribution of goods. In other words, the definition above explains that inflation is also a process of continuously decreasing the currency's value (Lintang, Mangantar, & Baramuli, 2019). Research (Rostanti & Effendi,

2019) shows that inflation negatively and significantly influences company value. However, research (Nursalim, Rate, & Baramuli, 2021) says that inflation does not affect company value.

2. Material and Method

This study employs a quantitative research design using panel data regression analysis to examine the effect of company growth, profitability, leverage, and inflation on firm value. Panel data analysis was selected to accommodate both cross-sectional (inter-firm) and time-series (inter-period) variations during the 2020–2022 observation period. The estimation procedure involves selecting the most appropriate panel data model among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) through model specification tests, including the Chow test, Hausman test, and Lagrange Multiplier (LM) test. Furthermore, classical assumption tests were conducted to assess the robustness of the regression model, including tests for multicollinearity and heteroscedasticity. Hypothesis testing was performed using the partial significance test (t-test) to evaluate the individual effect of each independent variable on firm value, and the coefficient of determination (R^2) to assess the explanatory power of the model.

The population of this study consists of 76 energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2022 period. Based on purposive sampling criteria—such as the availability of complete financial statements and relevant macroeconomic data—50 companies were selected, resulting in 150 firm-year observations. The study utilizes secondary (documentary) data obtained from published financial statements, prior empirical studies, official inflation data (Consumer Price Index), and relevant literature sources. Data processing and statistical analysis were conducted using EViews 13 software. The empirical model applied in this research is specified as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \varepsilon_{it}$$

To provide clarity regarding the operational definition of variables used in the model, Table 1 presents the description of each variable.

Table 1. Operational Definition of Variables

Variable	Symbol	Description
Firm Value	Y_{it}	Dependent variable representing the market value of the firm
Constant	β_0	Intercept term
Company Growth	X_{1it}	Proxy for firm growth (e.g., asset or sales growth)
Profitability	X_{2it}	Measure of firm profitability (e.g., ROA/ROE)
Leverage	X_{3it}	Capital structure indicator (e.g., DER)
Inflation	X_{4it}	Annual inflation rate based on CPI data
Error Term	ε_{it}	Disturbance term

Where $i$denotes the firm and $t$denotes the time period.

3. Result

The panel data model selection test was carried out as follows:

1. Chow Test

This test is processed to see which model is better *common effect model* and *fixed effect model* by using hypothesis testing, namely:

a. H0 : choose to use the *common effect model*.
b. H1: choose to use the fixed effects *model*.

Table 1. Chow Test

Effects Test	Statistic	d.f.	Prob.

Cross-section F	4.960121	(49,96)	0.0000
Cross-section Chi-square	189.268114	49	0.0000

Source: E-views 13 output

Based on the Chow test shown in the table above, the significance value obtained for the Cross-section Chi-square and Cross-section F is 0.0000 (less than 5%), so statistically, H0 is rejected, and H1 is accepted. So, the appropriate estimation model for panel data regression is *the Fixed Effects Model*.

2. Hausman Test

This test was carried out to determine which model is more suitable: the Fixed Effect Model (FEM) or the Random Effect Model (REM). With the following conditions:

a. H0: The REM model is acceptable when Prob > 0.05, so the REM model is the best.
b. H1: The FEM model is proper Prob < 0.05, so the best model to use is the FEM model, meaning the test stops, and there is no need to carry out the Lagrange Multiplier Test. The following are the results of the Hausman Test carried out by the author:

Table 2. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	14.251100	4	0.0065

Source: E-views 13 output

Based on the table above, it is known that the Chi-Square Statistics value is 14.251100 with a resulting probability of 0.0065 or less than 0.05. So based on the Hausman Test, the best model to use is the FEM model.

3. Multicollinearity Test

The multicollinearity test assesses whether there is a high or perfect correlation among the independent variables in the regression model. In the regression model, If the correlation value between the independent variables is <0.85, it means that there is no multicollinearity between the independent variables.

Table 3. Multicollinearity Test

	GPG	NPM	DER	IHK
GPG	1.000000	0.006027	-0.224853	0.083725
NPM	0.006027	1.000000	0.018284	0.055261
DER	-0.224853	0.018284	1.000000	-0.031265
IHK	0.083725	0.055261	-0.031265	1.000000

Source: E-views 13 output

Based on the table above, it can be seen that all the independent variables used in this research have a correlation coefficient value of less than 0.85, so it can be concluded that there is no multicollinearity in the variables in this research.

4. Heteroskedasticity Test

The heteroscedasticity test explains that one of the assumptions that must be met so that the parameter measurements in the regression model are BLUE (Best Linear Unbiased Estimator). To detect the presence or absence of heteroscedasticity in the regression model, you can use the Glejser test as follows.

Table 4. Heteroskedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	14.66502	3.015896	4.862575	0.0000
GPG	-0.006265	0.138567	-0.045215	0.9640
NPM	0.021020	0.075089	0.279934	0.7801
DER	-0.217814	0.511352	-0.425956	0.6711
IHK	2.657071	10.07302	0.263781	0.7925

Source: E-views 13 output

In the table above, the probability values for the independent variables GPG, NPM, DER and CPI are > 0.05. So, it can be concluded that the regression model does not indicate heteroscedasticity..

5. t-Statistic Test

The t-statistical test aims to partially test the influence of the independent variable on the dependent variable. In this study, the significance level was set at 0.05 (α = 5%). Researchers have carried out the t statistical test in this study using EViews 13 software with the following results:

Table 5. t-Statistic Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	130.7561	63.07755	2.072941	0.0409
GPG	-0.784293	2.898130	-0.270621	0.7873
NPM	4.026388	1.570479	2.563797	0.0119
DER	69.44174	10.69495	6.492947	0.0000
IHK	250.4050	210.6776	1.188570	0.2375

Source: E-views 13 output

The statistical test results show that the probability values of NPM and DER are respectively 0.0119 and 0.0000 < 0.05. So, that H0 is rejected, which means that the variable's profitability and *leverage* significantly affect the company value variable. Meanwhile, the probability values for GPG and CPI are 0.7873 and 0.2375 > 0.05 so, that H0 is accepted, which means that the company growth and inflation variables have no significant effect on the company value variable.

6. Coefficient of Determination Test (R^2)

The coefficient of determination measures how far the model's ability to explain variations in the dependent variable. The coefficient of determination value is between zero and one.

Table 6. Coefficient of Determination Test

R-squared	0.746910	Mean dependent var	287.7043
Adjusted R-squared	0.607184	S.D. dependent var	581.1550

Source: E-views 13 output

Based on the table above, the Adjusted R^2 value is 0.607184. This means that the ability of the independent variables in this research is, company growth, profitability, *leverage*, and inflation, can explain the dependent variable, namely company value, by 61%, while other variables outside the model explain the rest.

4. Discussion

The statistical regression results of the company growth variable (GPG) show a coefficient of 0.784293 which is negative and the probability value is 0.7873 > 0.05, which means it has an insignificant influence on company value (PBV). So, hypothesis one states that

growth has a positive and significant effect on company value rejected. Increasing large growth requires high costs to run company operations every year. This makes the profits that shareholders will obtain lower so that the company's value also decreases. The statistical regression results of the profitability variable (NPM) show a coefficient of 4.026388 which is positive and the probability value is 0.0119 <0.05, which means it has a significant influence on company value (PBV). So, hypothesis two states that profitability positively and significantly affects company value accepted. The increase in profitability seen through the net profit level from each company's sales activity can illustrate that the company's future prospects are good and the company's value will also increase.

This is in line with signal theory. Variable statistical regression results *leverage* (DER) shows a coefficient of 69.44174 which is positive and the probability value is 0.0000 <0.05, which means it has a significant influence on company value (PBV). So, the third hypothesis states that *leverage* has a negative and significant effect on company value was rejected. Companies with leverage at a high level mean the company is able to obtain large amounts of debt. The greater the source of capital obtained, the more capital can be allocated to operational activities so that future profits increase and the company's value also increases. The statistical regression results of the inflation variable (CPI) show a coefficient of 250.4050, which is positive. Then the probability value is 0.2375 > 0.05, which means it has an insignificant influence on company value (PBV). So, the fourth hypothesis states that inflation has a negative and significant effect on company value rejected. Even though the inflation rate is a category that needs to be monitored closely, energy sector companies were the only ones to experience a significant increase in share prices during 2021-2022. So, inflation cannot affect the size of the company's value.

5. Conclusion, Implication, and Recommendation

5.1 Conclusion

a. Company growth has a negative and insignificant influence on company value. This means that the size of the company's growth does not affect the value of the energy sector in 2020-2022.
b. Profitability has a positive and significant influence on company value. This means that the size of the company's profitability also influences the size of the energy sector company value in 2020-2022.
c. *Leverage* has a positive and significant influence on company value. That means, big or small *leverage* The company also influences the size of the energy sector company value in 2020-2022.
d. Inflation has a positive and insignificant influence on company value as measured by the PBV ratio. This means that the size of the CPI does not affect the size of the energy sector company value in 2020-2022.

5.2 Implication

1. Theoretical Implications

For academics, it is hoped that this research will increase knowledge of company value and enable greater attention to the factors that influence it, thereby leading to better ongoing research.

2. Practical Implications

Investors should invest their shares in companies that have profitability and *leverage* tall one. The amount of net profit from each sale will affect the value of the company and the amount of debt for capital, which is in line with increasing profits, will affect the value of the

company. Then the company is expected to maximize further its performance, which is reflected in the share price so that it will increase the value of the company. Companies should pay attention to factors that influence company value. The company is considered to have future prospects regarding the factors that influence its value, both internal and external.

5.3 Recommendation

Further research can be carried out using other variables that can influence company value such as company size, managerial ownership, investment decisions, dividend policy, and interest rates as independent variables. For researchers interested in the same topic, they can develop it by increasing the amount of data and the observation period, so that the results more closely reflect the actual conditions on the Indonesian Stock Exchange.

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