Selected Firms Environmental Variables: Macroeconomic Variables, Performance and Dividend Policy Analysis

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Abstract. This study aims to investigate the effect of macroeconomic variables such as gross domestic product (GDP) and interest rate of Bank Indonesia toward dividend policy through return on assets (ROA). The population in this study is the Property and Real Estate Company Sector listed on Indonesian Stock Exchange (IDX) which amounted to 48 companies. While the sampling is done by using purposive sampling approach so that the sample in this research is determined 10 Company. Data analysis techniques use multiple linear regression. The result of this study shows that GDP growth rate has a positive effect on firm performance. Interest rate of Bank Indonesia has no significant effect on firm performance. GDP growth rate has a positive effect on dividend policy. Furthermore, interest rate of BI has no significant effect on dividend policy. In addition, firm performance has a positive effect on the dividend policy.

Keywords: GDP, interest rate of Bank Indonesia, ROA, dividend policy

1. Introduction
The firms that sell shares to the public (go public) has the purpose of improving the capital structure, increasing production capacity, expand marketing, expand business relationships, and improve the quality of management. Companies that sell their shares in the stock market have an obligation to meet the prospectus, which is made by the company when the company sells its shares to investors. The primary objective of the investor to invest in the stock market is to get dividends (share of profit after tax in share) and capital gains (increase in stock price). Both must be greater or at least equal to the return (desired) desired stockholders. This is what motivates investors to invest in the stock market. By investing the excess funds that they have, leaders expect to get rewarded by the transfer of funds. In terms of borrowers the availability of funds from outside parties allow them to invest without having to wait for the availability of funds from the results of the company's operations.

Property and real estate sector after the global economic crisis of 2008 in 2010 to the first half of 2013 the sector is growing rapidly. This is due to: strong economic growth, GDP + 6.2%, Indonesia's demographic composition that supports economic growth and low levels central bank interest rate. The company's performance is reflected in its operating profit and net income per share as well as several financial ratios that describe the strength of management in managing the company,
to the dividend payout policy with the aim of realizing the welfare of owners and investors. Of the 50 companies listed on the IDX in the property and real estate sector in 2016, there are several companies paying dividend cash, for 6 consecutive years (2011 to 2016). Company growth and high Dividend payout is what the company wants, but it is at the same time an opposite goal. To achieve this objective, the company must determine the dividend policy of establishing the proportion of net profit after tax to be paid to the shareholders as dividends and stipulating the proportion of the net profit after tax held by the company to be reinvested, let alone under unsustainable macroeconomic conditions.

The company's performance has a strong dependency relationship, between and how existing resources are managed [4]. In the research, ROA is refined as a performance indicator, identified several factors that influence simultaneously, they can contribute to the increase or decrease in profitability of the company being analyzed. Among these factors have a good profitability action, namely inventory efficiency, debt levels, financial leverage, capital efficiency. The positive impact also shows, some ways of action in order to improve its performance. The right organization for operating activities should be aimed at the efficient use of current assets, which usually have the highest amount of assets. Efficient use of current assets increases as component elements rotations (inventories and receivables) increase so that overall results will result in higher revenues. Using a combined source to fund activities and increasing debt to a certain level that does not affect the financial autonomy of a company is another way designed to improve asset capabilities. To generate profits in situations analyzed, the actions of leveraged financial benefits and act in the sense of increasing ROA, this aspect justifies the company’s financing strategy through increasing debt. Profitability of one company can also increase through the acceleration of the rotation of capital itself. Significant impact on increased profitability, can be done through the action to reduce all operational costs. Because the Ratio of Revenue indicator is high, ROA is increasing. In all cases the model considered, the impact of the fixed asset ratio is negative and leads to a lower rate of return, indicating that investments in the company's technical and productive infrastructure have not produced sufficient positive effects. This can happen in the coming year. This may assert that better management of corporate profitability implies the adoption of some adequate strategies that can be identified through an analysis of how phenomena in their microeconomic environment are manifested. Intervensible elements to improve performance are high-impact performance, and the factors affecting the negative of profitability are some of the reserves of future economic improvements.

Company performance and corporate risk are reflected in the company's resilience in the face of economic cycles as well as macroeconomic and micro economic factors. In other words, the company's performance and risks faced are influenced by macroeconomic and micro economic factors. Economic factors that can directly affect stock prices and company performance include domestic general interest rate, inflation rate, tax laws, special government policies related to certain companies, foreign exchange rates, foreign interest rates, international economic conditions, and cycles of the economy [5]. The macroeconomic is an environment in which firms and capital markets operate, both to meet operational needs and transactions for revenue generation. The ability of management to understand and forecast future macroeconomic conditions will be very useful in making operating decisions that determine the performance of the company.

The firms' management should consider some macroeconomic indicators that can help in making decisions. Macroeconomic indicators that are often associated with financial performance are fluctuations in interest rates, inflation, the rupiah exchange rate, money supply and GDP growth. Gross Domestic Product (GDP) is the most common economic indicator to assess the economic condition of a country. As an overall measure of the total economic production of a country, GDP represents the market value of all goods and services produced in a measured time period. Increased GDP has a positive influence on the purchasing power of consumers so as to increase demand for the company's products. This is a positive signal because the revenue generated by the company increases.
Prior studies show that the dividend policy is determined by the performance of the company \[^6\]. Companies that perform well and generate profits will have the opportunity to use such profits as retained earnings or dividends. The issue of dividend policy is very important because the dividend information content can be used as a financial mechanism, which is a signal to outsiders about the prospect of stability and growth of the company \[^7\] and dividends play an important role in the capital structure so that the issuance of dividend policy is an investment decision. The level of corporate profitability is a major indicator that the company is able to issue dividends for a given year. The company’s current and prior year earnings are important factors in influencing dividends, dividends are a function of current and past profit levels and future \[^8\].

GDP growth rates are the most important indicators of economic development and GDP can also measure a country’s economic output. Increased GDP has a positive influence on consumer purchasing power so as to increase demand for the company’s products. This is a positive signal because the company’s revenue will also increase. Therefore, the higher the GDP then firm performance (ROA) will also increase \[^9\].

Interest rates of BI will affect the interest rates of commercial banks. If interest rates of BI increase, then the interest rates of commercial banks will also increase. Interest rates of BI affect the company’s plan to meet capital needs, either by issuing securities or bonds. Low-interest rates will cause lower borrowing costs because borrowers (firms) are charged to pay less interest. Low-interest rates will encourage investment and economic activity that results in higher stock prices \[^10\]. Interest is the cost, the higher the interest rate the company’s profit tends to be lower if other things are considered constant \[^10\].

GDP positively affects the purchasing power of consumers so as to increase demand for the company’s products. Increased demand for the product will increase the company’s sales. High sales will increase the profitability of the company, then high profitability will affect the availability of dividends to be paid. Therefore, an increase in GDP growth is positively associated with dividend policy. Overall macroeconomic fundamental factors such as interest rates, inflation, exchange rate and GDP have a positive effect on dividend policy.

Profitability affects dividend policy because profitability is a company’s ability to generate profit and dividend will be divided if the company earn profit. Of the after-tax profits are partially distributed as dividends to shareholders and others held in the company (retained earnings). If the profit earned is small, then the dividend to be shared is also small. In order for the shareholders to enjoy large dividends, management will seek to maximize profits to increase the ability to pay dividends. The profits provided to large shareholders enable shareholders to earn substantial dividends.

Lack of empirical study which tries to investigate the relationship between macroeconomic variable on firm performance and dividend policy. This study aims to investigate the effect of macroeconomic variables such as gross domestic product and interest rate of Bank Indonesia toward dividend policy through firm performance (ROA). Especially, the objective of current study to examine the influence of GDP and interest rate of BI on dividend policy through ROA at the Property and Real Estate Company Sector listed on Indonesian Stock Exchange (IDX). Based on the above arguments, the following are the research hypothesis:

*H*\(_1\)*: GDP growth rate has a positive effect on firm performance.

*H*\(_2\)*: Interest rate of BI has a negative effect on firm performance.

*H*\(_3\)*: GDP has a positive effect on dividend policy.

*H*\(_4\)*: Interest Rate of BI has a negative effect on dividend policy.

*H*\(_5\)*: Firm Performance has a positive effect on dividend policy.
2. Research Methods

Procedure and sample. The current study using secondary data in the form of annual report and summary of company performance recorded. The sample in this study is 10 Property and Real Estate companies paying the dividend and registered in Indonesia Stock Exchange (IDX) year 2011-2016. Measures. The variables in this study include macroeconomic variables, performance of firm, and dividend policy. Macroeconomic variables include GDP and interest rates of Bank Indonesia. Furthermore, Performance of the firm is measured using ROA. In addition, dividend policy is measured by dividend payout ratio (DPR). Data analysis. This study used multiple regression analysis with SPSS 20 to test the hypothesis.

Table 1. Firm samples

| No | Sample                                      | Stock code |
|----|---------------------------------------------|------------|
| 1  | PT. Bumi SerpongDamai Tbk.                  | BSDE       |
| 2  | PT. Ciputra Development Tbk.                | CTRA       |
| 3  | PT. Gowa Makassar Tourism Development Tbk    | GMTD       |
| 4  | PT. Perdana Gapuraprima Tbk                 | GPRA       |
| 5  | PT. Jaya Real PropertyTbk.                  | JRPT       |
| 6  | PT. Lippo Karawaci Tbk                      | LPKR       |
| 7  | PT. Metropolitan Kentjana Tbk               | MKPI       |
| 8  | PT. Metropolitan Land Tbk                   | MTLA       |
| 9  | PT. Plaza Indonesia Realty Tbk              | PLIN       |
| 10 | PT. Summarecon Agung Tbk                    | SMRA       |

3. Result and discussion

3.1. Descriptive statistics of variables.

The descriptive statistical analysis is used to show the mean of variables, maximum and minimum values and standard deviations. From the data collection conducted, the number of observations for this study obtained as many as 60 objects of observation from 10 companies for 6 years study period is 2011-2016.

Table 2. Descriptive statistics for GDP and interest rates of BI

|                | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | Average | Std.Dev. |
|----------------|-------|-------|-------|-------|-------|-------|---------|----------|
| Average GDP per year | 6.490 | 6.233 | 5.795 | 5.025 | 4.788 | 5.015 | 5.558   | 0.652    |
| Average Interest Rates BI per year | 6.583 | 5.771 | 6.479 | 7.542 | 7.521 | 6.000 | 6.649   | 0.681    |

Table 3. Descriptive statistics for ROA and DPR

| Firm Code | ROA (percent) | DPR (percent) |
|-----------|---------------|---------------|
| BSDE      | 7.914         | 8.825         |
| CTRA      | 4.286         | 5.654         |
| GMTD      | 10.075        | 7.148         |
| GPRA      | 3.628         | 4.295         |
| JRPT      | 8.488         | 8.561         |
| LPKR      | 4.459         | 5.319         |
| MKPI      | 15.103        | 14.219        |
| MTLA      | 9.053         | 8.501         |
| PLIN      | 1.960         | 5.942         |
| SMRA      | 4.799         | 7.283         |
| Average   | 6.977         | 7.736         |
The table 2 and 3 describe that the number of samples used in this study is as many as 60 data, including the number of sectors Property and Real estate listed on the IDX for six years from 2011 to 2016 which used as research samples based on purposive sampling method. The average dividend payout ratio of 27.870 with the standard deviation of 15.974, the average value of GDP growth rate (GDP) 5.558 and standard deviation of 0.652. The average value of Bank Indonesia interest rate of 6.649 and standard deviation of 0.681, and Average value of ROA 7.835 and standard deviation of 0.653.

3.2. Hypothesis testing.

The hypothesis in this study was tested by multiple linear regression. Using SPSS 20, The variables of this study are macroeconomic variable (GDP and interest rates of BI), performance (ROA), and dividend policy (DPR). Table 3. shows the result of hypothesis testing for H₁, H₂, H₃, H₄, and H₅. The objective of the current study is to examine the link between macroeconomic variables such as GDP and interest rate toward firm performance (ROA) and dividend policy (DPR). Table 4 shows that GDP growth rate has a positive effect on firm performance. The result indicates that H₁ is supported statistically. The table also reveals that an insignificant relationship between GDP and firm performance. This result describes that the relationship between GDP and ROA is not as strong as expected. Furthermore, the interest rate of Bank Indonesia has no significant effect on firm performance. The finding indicates that H₂ is not supported statistically. The table shows that the interest rate of BI has a positive effect on firm performance. This result contrasts with the literature which explains that interest rate of BI has a negative effect on firm performance. Table 4 also reveals that GDP growth rate has a positive effect on dividend policy. The result indicates that H₃ is supported statistically. The table also shows that an insignificant relationship between GDP and dividend policy. This result describes that the relationship between GDP and ROA is not as strong as predicted. Hereinafter, the interest rate of BI has no significant effect on dividend policy. The finding indicates that H₄ is not supported statistically. The table shows that the interest rate of BI has a positive effect on dividend policy. This result contrasts with the literature which explains that interest rate of BI has a negative effect on dividend policy. In addition, firm performance has a positive effect on the dividend policy. The result indicates that H₅ is supported statistically. The table also shows that a significant relationship between firm performance and dividend policy. This result describes that the relationship between GDP and DPR is strong as expected.

| Hypothesis                      | Path coefficient | T Statistics | Sig.  | R Square |
|---------------------------------|------------------|--------------|-------|----------|
| GDP → Performance                | 0.262            | 1.517        | 0.136 | 0.148    |
| Interest rates of BI → Performance | 0.482        | 2.791        | 0.008 |          |
| GDP → Dividend policy           | 0.157            | 1.035        | 0.306 |          |
| Interest rates of BI → Dividend policy | 0.052    | 0.347        | 0.730 | 0.230    |
| Performance → Dividend policy   | 0.487            | 3.671        | 0.001 |          |

4. Conclusion

This study investigates the impact of macroeconomic variables such as gross domestic product (GDP) and interest rate of Bank Indonesia toward dividend policy through return on assets (ROA). The research using data from 10 Property and Real Estate Company Sector listed on Indonesian Stock Exchange (IDX). The data were generated from the annual report of the companies for the period covered. The result of this study shows that GDP growth rate has a positive effect on firm performance. Interest rate of Bank Indonesia has no significant effect on firm performance. GDP
growth rate has a positive effect on dividend policy. Furthermore, interest rate of BI has no significant effect on dividend policy. In addition, firm performance has a positive effect on the dividend policy.

Although the study has reached its objectives, the findings of the study need to be interpreted with the following study limitations in mind. Samples in this study only from the Property and Real Estate Company Sector in one country (Indonesia). Therefore, generalization of this study is limited. Future study can replicate this study to other industries to achieve a better generalization of the results. Future study can add other variables related to macroeconomic factors that may be able to influence firm performance or profitability such as inflation rates \(^{[9]}\).

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