Determinant of Dividend Policy on Manufacturing Companies Listed on BEI

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Abstract — This research belong to determine the factors that influence dividend policy on manufacturing companies listed on the Indonesia Stock Exchange (IDX). This study uses dividend policy as the dependent variable. Meanwhile the independent variables in this study are profitability, and leverage. This is a quantitative study using secondary data types and panel data regression analysis as a method of analysis. The population in this study was 669 companies that were listed on the IDX. Samples were selected by means of purposive sampling methods which included 39 manufacturing companies in the 2016- 2018 period. Panel data regression test results with a significance level of 0.05 had explained that profitability has a significant effect on dividend policy, and leverage has no significant effect effect on dividend policy.

Index terms — Dividend Policy; Profitability; Leverage.

I. INTRODUCTION

The manufacturing industry has an important role in the economy Indonesia. This is supported by the number of manufacturing companies listed at Indonesia Stock Exchange (IDX). In carrying out its business activities, of course the company manufacturing companies listed on the Indonesia Stock Exchange cannot be separated from activities investments made by investors. One measure of internal investors investing is a dividend policy. Dividend policy is the amount the percentage of profit paid to shareholders in the form of dividends cash and stock dividends, maintaining dividend stability from period to period, and share repurchase (buy-back) [5].

Establish policy dividends affect the amount of investor confidence in related companies with the company's performance in getting profits or achieving targets predetermined. There are several factors that influence dividend policy. One of them is profitability. Profitability reflects the company's performance in get profit through managing assets owned. Besides profitability, Investors also pay attention to other factors that influence dividend policy, i.e. leverage. Leverage shows the company's ability to meet all short and long term liabilities. The following ratio comparison profitability, and leverage on dividend policy.

TABLE I: DIVIDEND, PROFITABILITY AND LEVERAGE

Years	Dividend	Profitability	Leverage
2014	0.0978	0.0608	1.166
2015	0.1555	0.0317	1.257
2016	0.2178	0.0472	21.463
2017	0.3021	0.0432	1.744
2018	0.272	0.0556	-2.022

Source: idx.co.id (data processed).

Based on data from the table above, there are phenomena in each ratio. The amount of profit will determine the portion of retained earnings that affects the dividend ratio [5]. Where, high profitability affects the amount the company's dividend policy also increased. This is supported by the results research conducted by Ingrit, et al which states that profitability a positive and significant effect on dividend policy, which means when company profits increase, the distribution of dividends will also increase [5]. However, in the 2015, 2017 and 2018 periods the growth in dividend policy is inversely proportional with profitability. Where there is a decrease and the ratio of dividend policy which is not in line with profitability ratios.

This situation is similar to the results research Atmoko, et al that, profitability has a negative effect and not significant towards dividend policy [1]. The leverage ratio allows payment dividends with large amounts [10]. Because, debt owned by the company used to meet the necessary funding needs. False one requirement is dividends. Evidenced by research Odum and Odum which concluded that leverage significantly influences policy corporate dividends in the same direction [11]. This shows that the increase in leverage will impact on the increase in dividend policy. However, different things happen to existing data. The decline in dividend policy in 2017 was accompanied by an increase leverage. This is supported by the results of Ginting's research which shows leverage that has no effect on dividend policy [4].

With the description above it can be concluded that profitability and leverage are factors that influence dividend policy. Formulation of the problem what is in this research is whether profitability and leverage have influence on dividend policy partially. The results of research that have been conducted can be used as a reference for further researchers in a similar field and also as input for business actors and investors regarding policies applied.

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II. LITERATURE REVIEW

A. Dividend Theory Not Relevant by MM (Irrelevant Dividend Theory)

According to Sulistyio irrelevant dividend theory is not relevant stated by Merton Miller and Franco Modigliani (MM). In this theory explained that, dividend policy has no effect on stock prices or capital costs of a company. Miller and Modigliani argue the value of the company not influenced by the size of the dividend payout ratio (DPR), but only determined by the ability to generate profits (profitability) and business risk [7]. In this theory, investors are considered not too want dividends because they are able to 'create' their own dividends. So investors can buy and sell shares in order to get their own dividends. If investors do this then the dividend policy can really considered irrelevant. However, investors who carry out such activities also must consider the risks to be accepted. Based on this theory, investors considered not really want dividends because they are able to 'create' its own dividends. There are several assumptions used to support the theory These include:

- No tax is paid on dividends;
- Shares can be bought and sold without transaction costs;
- Perfect capital market;
- Fixed investment policy.

B. Theory of Tax Differentiation (Tax Differential Theory)

Tax differential theory is a theory that explains differences tax between dividends and capital gains from the sale of shares. There are three reasons which explains the tax relationship with investors' preferred perceptions low dividend distribution, as follows [3]:

- The tax charged for the dividend is greater;
- Lower cost effective;
- Heirs are not taxed.

Based on these three reasons, it can be concluded that this theory gives influence on the perceptions of shareholders if the company paying a low amount of dividend will not affect the value company. More profits will be reallocated to the company increase the value of the company through the high price of shares owned. So shareholders will get more profit from capital gains for shares trading transactions. Because as explained before that the tax imposed on capital gains has a lower value compared to dividends distributed [3].

C. Profitability on Dividend Policy

Profitability ratio is a ratio that serves to measure ability company in search of profit. This ratio can also be used as a measure of level management effectiveness of a company. This is indicated by the amount of profit generated, both from sales activities and investment income company [7]. Companies with stable profits usually distributing dividends in larger amounts. Company capability in generating profits affect the dividend policy they have[9]. This is in line with previous research that has been done, wrong only one shows the results that profitability has a significant influence on positive correlation on dividend policy [6]. This shows that profitability has a direct relationship with dividend policy a company that is when the level of profitability increases, the

dividends are distributed the company also showed an increase. Other studies also have the same results that is, profitability has a positive and significant effect on payment levels dividends by companies [13]. Results of subsequent studies shows that the level of profitability has an influence on policy company [4]. Neither with research that also explains influence of profitability ratios with the implementation of dividend policies [14].

D. Leverage on Dividend Policy

The leverage or solvency ratio is a ratio that serves as a measurement tool to find out to what extent the assets owned by the company are financed with debt. Can be interpreted, leverage is the amount of debt burden borne company compared to the number of assets owned [7]. Increasing the ratio of debt to companies can also increase expectations shareholders associated with dividends to be paid. Because with existence the increase will have an impact on the increasing amount of dividends shared [3]. There are several studies previously regarding the relationship between leverage and dividend policy, yields research shows that leverage has a significant effect on positive correlation towards dividend policy. If the company uses debt as capital to run company activities, the company can increase profits the company will also increase the amount of dividends paid to investors [6]. Next research too have the results of testing the hypothesis that leverage has a positive effect on dividend policy. The higher the proportion of debt used in the capital structure a company, the greater the amount of dividends to be paid [1].

E. Empirical Research Methods

Fig. 1. Thinking Framework.

F. Hypothesis

Based on literature review and information obtained from several studies previously, the temporary hypotheses that could be produced from this research were:

- H 1 : Profitability has a positive effect on dividend policy so that, more and more the higher the profitability, the higher the dividend policy.
- H 2 : Leverage has a positive effect on dividend policy so that, the higher the higher the leverage the dividend policy.

III. RESEARCH METHODOLOGY

A. Population and Sample

The population used in this study are all companies listing on the Indonesia Stock Exchange and the samples are all manufacturing companies registered in the 2016-2018

period with sample selection using purposive sampling.

B. Variable Measurement

1. Dependent Variable

Dividend policy is the large percentage of profit paid to shareholders in the form of cash dividends and share dividends, safeguards the stability of the dividend from period to period, and the share repurchase (buy-back). Dividend policy in this study is measured through a dividend payment ratio (DPR) formulated as follows:

$$\text{Dividen Payout Ratio} = \frac{\text{DPS}}{\text{EPS}} \quad (1)$$

2. Independent Variable

a. Profitability Ratio

Profitability is a ratio that serves to measure ability company in search of profit. The following formula for calculating profitability:

$$\text{Return on Assets} = \frac{\text{EAT}}{\text{Total Asset}} \quad (2)$$

b. Leverage Ratio

Leverage is a ratio that can be used to determine the extent of assets owned by companies financed with debt, the formula used is as follows:

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liability}}{\text{Total Equity}} \quad (3)$$

C. Data collection technique

This study uses secondary data types sourced from documents as well as other sources and can be used immediately. Data in this study sourced from performance reports, annual reports, and quarterly reports published for 3 consecutive years from the 2016 to 2018 period accessed through the official page of the Indonesia Stock Exchange www.idx.co.id and sources other relevant.

D. Analysis Techniques

The analysis technique used in this study is through the application of Microsoft Office Excel, E-views 10 and panel data regression analysis methods.

E. Descriptive statistics

Descriptive statistics make the presentation of data through tables, graphs, diagrams circle, pictogram, mode calculation, median, mean, decile calculation, percentile, calculation of the spread of data with calculation of averages and standard deviations, percentage calculation. In descriptive statistics we can know its strength the relationship between variables with correlation analysis. In this study data used is Profitability, and Leverage on Dividend Policy on manufacturing companies.

F. Panel Data Regression Model

This study uses panel data regression analysis because the data used is a combination of time series data and cross section data, the sample of which used in this study are manufacturing companies registered at Indonesia Stock Exchange in the period 2016-2018. The general form of panel data regression is as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \mu_{it} \quad (4)$$

Information:

Y_{it} = Dividend Policy;

X_1 = Profitability;

X_2 = Leverage;

β_0 = Constant;

$\beta_{1,2,3}$ = Path coefficient;

i = Name of manufacturing company;

t = Period of Time;

μ_{it} = Error Term.

IV. RESULTS AND DISSCUSSION

A. Description Of Research Object

The object of research in this study is 669 companies registered at Indonesia Stock Exchange, with a sample of manufacturing companies listing in the period 2016-2018. There are 39 companies that meet the sample criteria with periods 3-year observation so that the total sample of data is 116 samples.

B. Descriptive Statistics

Based on testing through E-views version 10 , the results of data processing are obtained are as follows:

TABLE II: DESCRIPTIVE STATISTICS RESULTS

	DPR	ROA	DER
Mean	0.47368	0.10628	0.82776
Maximum	2.24860	0.52670	4.19000
Minimum	0.01890	0.00100	0.08000
Std. Dev.	0.37048	0.09851	0.78968
Observations	117	117	117

Sources: E-views 10.

a. Dividend Policy Variable

Dividend policy is the large percentage of profit paid to shareholders in the form of cash dividends and share dividends, maintaining dividend stability from period to period, and repurchasing stock. Dividend policy in this study is measured through Dividend Payout The ratio (DPR) can be seen in table 1 above. Average DPR score of 39 the company for 3 years amounted to 0.47368. Value of Dividend Policy the lowest is 0.018900 or 1.89% owned by PT. Primary Impack Industri Tbk in 2016. The highest value of 2.2486000 or 224.86% owned by PT. Indocement Tungal Prakarsa Tbk amounted to one year 2018. Whereas the standard deviation of the Dividend Policy variable is equal to 0.370483 or smaller than the average value which means the variable in the condition good.

b. Profitability Variable

Profitability is a ratio that serves to measure ability companies in search of profit and measured through Return On Assets (ROA) from 39 companies for 3 years. Based on table 1, the average value of ROA amounting to 0.106284. The lowest ROA value is 0.001000 or 0.1% owned by PT. Ricky Putra Globalindo Tbk in 2018. The highest value is 0.526700 or 52.67% owned by PT. Multi Bintang Indonesia Tbk on 2017. The standard deviation of ROA is 0.098515 or smaller than average value which means the variable is in

good condition.

c. Leverage Variable

Leverage is a ratio that can be used to determine the extent company owned assets financed with debt, leverage on this research was measured through Debt to Equity Ratio (DER). Average value of DER amounted to 0.827764. The lowest DER value is 0.080000 or 8% owned by PT. Sido Muncul Tbk Herbal & Pharmaceutical Industry in 2016. The highest value of DER is 4.190000 or 419% owned by PT. Indal Aluminum Industry Tbk in 2016. Whereas the standard deviations are owned by DER is 0.789684 or smaller than the average value means the variable is in good condition.

C. Selection of Panel Data Regression Model

To determine the best model used in this study, then three tests were conducted namely the Restricted F Test, the Hausman Test, and the Langrange Test Multiplier.

1. F Restricted Test

TABLE III: F RESTRICTED TEST RESULTS

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.554189	(38,76)	0.0000
Cross-section Chi-square	119.504418	38	0.0000

Sources: E-views 10.

Based on the hypothesis, H_0 is rejected H_a accepted if the probability value of a cross-section of chi square <0.05 . From table 2 above, it can be concluded that the probability value of cross-section chi This assessment square is 0.0000 and smaller than 0.05. So that the best model between The Pooled Least Square and Fixed Effect Model are the Fixed Effect Model.

2. Hausman Test (Fixed Effect Model vs Random Effect Model)

TABLE IV: HAUSMAN TEST

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.843932	2	0.3977

Source: E-views 10 (data processed).

Based on the above test, then H_0 is rejected and H_1 is accepted if the probability value random cross-section <0.05 . The results from the above table are 0.3977 and greater than 0.05. So, the best model chosen between Fixed Effect Model and Random Effect The model is the Random Effect Model . Because the results of this test are different from the F restricted test it is necessary to do a langrange multiplier test.

3. Langrange Multiplier Test (Common Effect Model vs Random Effect Model)

TABLE V: LANGRANGE MULTIPLIER TEST RESULTS

Null (no rand. effect) Alternative	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	23.26365 (0.0000)	0.506058 (0.4769)	23.76970 (0.0000)

Sources: E-views 10.

Based on the above hypothesis, H_0 is rejected if the value of the probability of cross-section Chi-Square <0.05 ,

and H_a is accepted if the Chi-Square cross-section probability value >0.05 . From table 4 above, it can be concluded that the probability value of the cross-section Chi-Square is 0.0000 and smaller than 0.05. So that the best model can chosen between the Common Effect Model and the Random Effect Model is the Random Effect Model. Then the model used in this study is the Random Effect Model.

4. Panel Data Regression Model Used

TABLE 6: RANDOM EFFECT MODEL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.265754	0.078492	3.385738	0.0010
ROA	1.639580	0.415004	3.950756	0.0001
DER	0.030275	0.052748	0.573959	0.5671

Sources: E-views 10.

Based on the table above, the regression model equation can be obtained is:

$$\text{Dividend Policy} = 0.265754 + 1.639580 \text{ ROA} + 0.030275 \text{ DER} \quad (5)$$

From the formed regression equation, it can be described as follows:

a. Constant value of 0.265754 which means that if profitability (X_1), and leverage (X_2) has a value of 0, then the dividend policy (Y) might experience an increase of 0.770316.

b. The value of the regression coefficient for variable X_1 or profitability (ROA) is 1.639580 which means to change one unit in profitability (ROA) then the dividend policy will increase by 1.639580 with assuming other variables are fixed. Positive regression coefficient can be interpreted that between the value of variable X_1 or profitability and dividend policy have a positive relationship.

c. The value of the regression coefficient for the variable X_2 or leverage (DER) is 0.030275 which means that for every change of one unit of leverage (DER), the policy dividends will increase by 0.030275 assuming a variable another is fixed. A positive regression coefficient can be interpreted that between the value of variable X_3 or leverage and dividend policy has a positive relationship.

5. Partial Test (t test)

TABLE VII: TEST RESULTS T

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.265754	0.078492	3.385738	0.0010
ROA	1.639580	0.415004	3.950756	0.0001
DER	0.030275	0.052748	0.573959	0.5671

Source: E-views 10 (data processed)/

a. Effect of Profitability (X_1) on Dividend Policy

The profitability variable (X_1) as measured by Return On Assets (ROA) has significance value of 0.0001 <0.05 which means that H_0 is rejected and H_1 accepted. T count value of 3.950756 and t table 1.65833. Then t count $>$ t table so you can conclude that H_0 was rejected and H_1 was accepted. So, it can be concluded that profitability (X_1) affects the dividend policy.

b. Effect of Leverage (X_2) on Dividend Policy

The leverage variable (X_2) as measured by Debt to Equity Ratio (DER) has significance value of 0.5671 $>$

0.05, which means H_0 is received and H_1 rejected. T count value of 0.573959 and t table 1.65833. Then t count < t table so you can concluded that H_0 is received and H_1 rejected. So, it can be concluded that leverage (X 3) has no effect on dividend policy

D. The Coefficient of Determination (R^2)

TABLE 8 : TEST RESULTS THE COEFFICIENT OF DETERMINATION (R^2)

R-squared	0.121591
Adjusted R-squared	0.106180

Source: E-views 10 (data processed).

Based on table 7 above, it can be seen that the results of the coefficient of determination test (adjusted R^2) a dependent variable measured dividend policy through the House of 0.106180 or 10.618% dividend policy can be explained by the profitability variable and leverage. And the remaining 89,302% is explained by other variables that are not used in this study.

E. Discussion

a) Effect of Profitability on Dividend Policy

Based on the results of data regression tests that have been done before, known profitability variable has a result of 0.0001 which is smaller than 0.05 or the same where H_0 is accepted and H_1 is rejected. It can be concluded that profitability is in this research has an influence on dividend policy. That is caused by the company's ability to manage assets owned to produce profits and distribute them as dividends to shareholders. The amount Net profit results divided by total assets owned by the company affect the amount of dividends distributed. The higher the level of profitability, the more the amount of dividends will be given to the shareholders. These results in line with previous research which also has results that profitability has a significant influence on dividend policy [2] [4] [6] [13] [14].

b) Effect of Leverage on Dividend Policy

Based on the results of previous data regression tests, leverage has a yield of $0.5671 > 0.05$, which means H_0 is received and H_1 rejected. Therefore, it can be concluded that leverage has no influence on policy dividend. Leverage is measured through total debt divided by total equity no effect on dividends distributed. This happens because of the debt that is company owned is not distributed as dividends so it does not provide any influence on dividend policy. The results of this study are in line with previous research which resulted in the conclusion that there is no influence whatsoever between leverage and dividend policy [4] [11].

V. CONCLUSION

This research was conducted with the aim to determine the effect of variables Profitability, and Leverage on Dividend Policy in Manufacturing Companies listed on the Indonesia Stock Exchange (IDX). Dividend policy at the company can be used as a benchmark for investors to choose the best company for make an investment. Based on the results of data analysis and discussion that has been carried out earlier in chapter 4, the following conclusions can be drawn:

a) Profitability Variables affect Dividend Policy. With

thus, the research hypothesis can be proven.

b) The Leverage variable does not affect the Dividend Policy. With thus, the research hypothesis cannot be proven.

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