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Analysis of the Effect of Funding Decision and Dividend Policy on the Firm Value and Investment Decision as Mediation

(Study on Manufacturing Companies in Indonesia Stock Exchange)

Sugeng Sulistiono*, Yusna Yusna
State Polytechnic of Malang
Malang, Indonesia
*penkpoltek@gmail.com

***Abstract*—The aims of this study are to examine and analyze, First the direct effect of financial decision and dividend policy on firm value, second the indirect effect of financial decision and dividend policy on firm value, and investment decision as mediation variable. This study was performed on the firms listed in the Indonesia Stock Exchange (BEI) During 2014 to 2017 period. The data collection was done by using purposive sampling while the population is chosen based on population criteria. The Firm involved as research sample with the number are 72 firms. The method of data analysis is multiple regression analysis and Sobel Test used to test for mediation variable. The research findings show that the indirect effect of funding decisions and dividend policy with investment decisions as mediation on firm value is significant.**

Keywords: firm value, investment decision, financial decision, dividend policy

I. INTRODUCTION

The company's business strategy is a company management plan that is made to achieve the company's goals in the long term. Corporate financial theory states that the goal of maximizing shareholder welfare is a measure of the company's success in managing its business. According to Weston dan Copeland, maximizing shareholder welfare, can be achieved by maximizing the value of the company [1]. According to Van Horne, "The objective of a company must be to create value for the shareholders. Value is represented by market price of the company's common stock, which, in turn, is a function of the firm's investment, financing, and dividend decisions" [2]. This shows that value creation for shareholders is the company's goal. According to Damodaran corporate financial theory… "the objective is the maximization of firm value, the relationship between financial decisions, corporate strategy, and firm value has to be delineated" [3]. Financial decisions include funding decisions namely the decision to arrange capital structure to increase the value of the company. Whereas the dividend policy aside from distributing dividends to shareholders. Potential funding to finance a company's investment using its own capital, debt or retained earnings will affect the value of the company. In this case investment decisions have an important role in mediating the effect of funding decisions and dividend policies on firm value. The results of this study are to develop previous studies relating to corporate value. Thus this study will analyze whether investment decisions mediate the influence of funding decisions and dividend policies on firm value.

This research was conducted at Indonesia Stock Exchange with a research period of 2013-2016. The object of this research are companies registered with PT. Indonesia Stock Exchange (IDX)

The aims of this study are to examine and analyze:

- The direct effect of financial decision and dividend policy on firm value
- The indirect effect of financial decision and dividend policy on firm value, and investment decision as mediation variable.

The results of this study build a Financial Factor Analysis Model Design Manufacturing companies listed on the Indonesia Stock Exchange.

A. Measurement of Company Value with Tobin's Q

Tobin's Q value is the sum of the market value of all outstanding stocks and the market value of debt compared to the value of all capital placed in production assets (replacement value of all production capacity)

Tobin's Q calculation will describe the value of the company with the stock price indicator. Every change in share price indicates the value change of the company. According research by Chang & Wang, JIraporn and Liu, Baros and Silviera uses the formulation of Tobin's Q which describes not only the calculation of market value of equity calculated with stock prices, but is also related to the use of debt and the elements of inventory and current assets and total assets [4-6]. The formulation of Tobin's Q is as follows:

$$\text{Tobin's Q} = \frac{(\text{OS X P}) + (\text{D} + \text{I}) - \text{CA}}{\text{TA}}$$

In this case OS is Outstanding share, P is Share Price, D is Total debt, I is Inventory, CA is Current assets, and TA is Total Assets. The market value of the company is the sum of the market values of all debts and the market value of shares. While replacement costs of assets is the value of replacement of all company assets.

In the calculation of the Q ratio if it turns out that the result is greater than one (Q> 1), this means that the market values higher than the replacement value of the company's assets. In this case the investment in the company's assets generate profits that provide a higher value than the investment expenditure, this will stimulate new investment. Conversely, the Q ratio is smaller than one (Q <1), this shows that the market is valuing lower than the replacement value of its assets.

B. Funding Decision and Company Value

Funding decisions related to the capital structure. Several studies on the relationship of capital structure and company value are presented, among others, Masulis [7], the results of his research indicate that changes in stock prices are positively related to changes in leverage, especially convertible senior security shares. Whereas Fama and French shows that the tax effect on debt policy negatively affects the value of the company [8]. The results of this study are consistent with Miller's research on the effects of tax on income and signaling theory that illustrates the use of debt indicates company growth. Chen show that debt is positively related significantly to firm value for companies with low growth opportunity [9]. While the relationship between debt and corporate value is not significant at high growth opportunities. Furthermore, Jirapon and Liu shows a significant positive relationship between the use of debt with firm value [5]. In this study capital structure uses long term debt to total capitalization ratio. This ratio shows the proportion of long-term debt in overall long-term capital [2].

C. Dividend Policy and Company Value

Several studies on the relationship of dividend policy with firm value, stated among others by Fama and French [8], a tax effect on dividend policy, so that dividend policy has a significantly positive effect on firm value. Whereas Masulis and Trueman stated investors that the required cut-off rate of an investment must be lower when the project uses internal funding sources, rather than the project uses external funding sources [10]. In this case the company's investment funding from external funding sources must increase the value of the company. Furthermore, Agrawal and Jayaraman shows that dividends are a substitute for debt in reducing agency costs in dividend policies that use all company equity [11]. Furthermore, this study shows that the dividend payout ratio and dividend yield ratio for companies that use equity have a higher level of significance than companies that use debt. The dividend policy uses a proxy for dividend yield and the value of the company uses a proxy for the risk-adjusted annual return on the firm's common stock. Whereas Hussainey, MgBame and MgBame shows that dividend policy as indicated by the dividend payout ratio has a significant negative correlation to changes in stock prices, while the dividend yield proxy has a significant positive correlation to changes in stock prices [12].

D. Investment Decisions and Company Value

The investment decision is the company's commitment to invest its funds at this time with the aim of getting a profit contribution compared to the risks of the investment in the future. Damodaran explains that investment decisions are decisions relating to investments that provide benefits greater than the minimum interest rate received [3]. Investment project financing is related to the use of various types of capital in financing the project. High-risk projects are expected to produce high returns calculated based on the project's cash flow which is greater than the investment. A high hurdle rate is used to assess these high-risk investment projects. Several investment decisions made by the company can provide an illustration that the company is experiencing growth. The company's growth shows that the company is able to manage its investments profitably, so that the company can make several investment choices from several profitable investment opportunities. For investors, the company's growth promises to grow profits in the future. This situation will generally increase the value of the company which can be shown by increasing the company's stock price.

E. Research Hypotheses are as Follows:

Hypothesis 1: Investment decisions mediate the effect of increasing funding decisions in increasing firm value.

Hypothesis 2: Investment decisions mediate the effect of increasing dividend policy in increasing firm value.

II. METHODS

This research is a confirmatory research that confirms the theory of the research object both for explanation and prediction. Furthermore, this research is an explanatory research (explanatory research), namely research that aims to test theories or hypotheses in order to strengthen or even reject existing theories or hypotheses.

This research was conducted on research objects in the manufacturing sector that listed on the Indonesia Stock Exchange. Determination of the study population is based on population criteria and uses a purposive sampling technique, where the samples obtained describe the characteristics of the population. The research period was 2014 to 2017 with 72 companies as samples, so the total research data was 288 data

A. Identification of Variable Measurement

- Funding decisions (X1), are exogenous variables measured by the proxy Debt to equity Ratio (DER).
- Dividend Policy (X2), is an exogenous variable measured using the Dividend payout ratio (DPR). Proxy

- Investment Decision (Y1), is an endogenous variable as a mediating variable measured by the market to book value of equity (MVE / BVE) proxy.
- Company Value (Y2), is an endogenous variable measured using Tobin's Q ratio or Q ratio

B. *Definition of Variable Operations*

1) Company value: Tobin's Q is a measure of company value that includes elements of equity, corporate debt, and involves the value of company assets. Research conducted by Chang & Wang (2007) [4], Jiraporn and Liu (2008) [5], Baros and Silviera (2007) [6] using the formulation of Tobin's Q or Q ratio are as follows:

$$Tobin's\ Q = \frac{(OS \times P) + (D + I) - CA}{TA}$$

2) Funding decisions: Capital structures are various types of capital used in companies. This shows the proportion of debt, equity, and retained earnings. The capital structure variable uses a debt to equity ratio (DER) proxy [5,7,9,13].

$$DER = \frac{Total\ debt}{total\ equity}\ x\ 100\%$$

3) Dividend policy: Dividend policy measurement can be done with dividend payout ratio and dividend yield ratio. Dividend payout ratio is formulated as follows [14]:

$$Dividend\ Payout\ Ratio = \frac{Dividend\ Paid}{Net\ Income}$$

This ratio illustrates the percentage of dividends paid to shareholders. Increasing the distribution of dividends will often increase the price of shares and vice versa decreasing the distribution of dividends will reduce the stock price, this shows that investors prefer dividend distribution compared with capital gains. However, Modigliani-Miller believes the ups and downs of the percentage of dividends paid to shareholders are only signals or signals of the company's business prospects in the future.

4) Investment decision: This ratio illustrates the value of capitalization of shares in the capital market. The calculation of the number of shares outstanding and stock prices illustrates the market's ability to assess internal funding sources namely equity [15-17].

$$MVE/BVE\ Ratio = \frac{Outstanding\ Share\ x\ Share\ Price}{Total\ Equity}$$

Path analysis method of analysis is used, because of the relationship between complex variables that cannot be done using multiple regression. Path analysis diagrams can be described in the form of causal equations and are usually shown with more than one equation.

C. *Designing the Path Analysis Model*

The method of analysis in this study is to design a path analysis model shown in the following diagram.

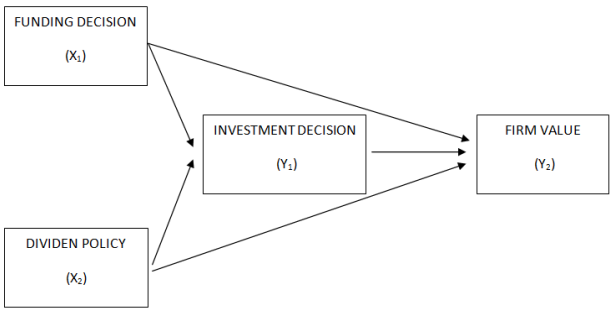

Fig. 1. Path analysis model.

1) Hypothesis test: Testing the direct influence hypothesis is examining the coefficient (standardized) and significance (p) of each pathway on the direct effect. Testing the indirect effect is carried out on the coefficient of indirect relationships. The significance of this indirect effect can be determined by testing the mediating model (variable intervening).

2) Analysis of mediation variables: Testing. The mediation variable testing method uses the multiplication method, which uses the Sobel test through hypothesis testing [18]. The standard deviation of indirect effect (multiplication) refers to MacKinnon in Solimun [18].

$$\sigma ab = SQRT\ (\sigma a2a2 + \sigma b2b2).$$

The formulation shows that an and b are the path coefficients. Z_value, calculated by dividing the coefficient of indirect effects by the standard error or standard deviation.

$$z\_value = (a \times b) / SQRT\ (b^2 \times SE_a^2 + a^2 \times SE_b^2)$$

Z_value is a measure of mediation variables in the Sobel Test. Z_value shows the level of significance of the indirect effect of independent variables on the dependent variable through mediating variables. If the Z-value in absolute price = 1.96 or the level of statistical significance p-value = 0.05, then this shows that the indirect effect of the independent variable on the dependent through mediating variables is significant at the 0.05 significance level.

III. HYPOTHESIS TEST AND DISCUSSION

A. *Research Result*

This research was conducted at Indonesia Stock Exchange, namely several companies listed on the exchange as research samples. The research data in the form of an annual report company research samples and stock prices with the research period of 2014 to 2017.

1) Checking model validity

TABLE I. R SQUARE TEST RESULTS (R2) EXOGENOUS VARIABLES AGAINST ENDOGENOUS VARIABLES

No.	Exogenous Variables	Endogenous Variables	R Square (R2) Score
1.	DER dan DPR	MVE to BVE	0,830
2,	DER, DPR, MVE/BVE	Q ratio	0,836

The coefficient of total determination is calculated as follows [18]:

$R^2_M = 1 – P_{e1}{}^2 P_{e2}{}^2 \ldots\ldots P_{ep}{}^2$

$R^2_M = 1 – (0,830)\ (0,836)$

$R^2_M = 1 – 0,69388$

$R^2_M = 0,30612$

Based on the calculation of the total determination coefficient (R^2M), then this shows the total diversity of data that can be explained by the research model is 30.61% or in other words the information contained in the data 30.61% can be explained by the model. While 69.39% is explained by other variables not included in the research model. The total determination coefficient of 30.61% shows the simultaneous influence of the DER, DPR and MVE / BVE variables on the Q ratio is 30.61%. While the influence of other variables not included in the research model is 69.39%.

2) Calculation of the path

a) Direct effect (direct effect): The direct effect of the variables in the research model is the direct effect of the DER and DPR variables on MVE / BVE. Next is the direct effect of the DER, DPR and MVE / BVE variables on the Q ratio.

The following table 2 shows the path coefficients of each variable.

TABLE II. PATH COEFFICIENT OF DIRECT EFFECT BETWEEN VARIABLE

No.	Direct effect between variables	Path coefficient	p-value	Result
1	The effect of DER (X1) to Q ratio (Y2)	0,039	0,366	Not Significant
2	The effect of DPR (X1) to Q ratio (Y2)	0,138	0,001	Significant
3	The effect of DER (X1) to MVE/BVE (Y2)	0,522	0,000	Significant
4	The effect of DPR (X1) to MVE/BE (Y2)	0,493	0,000	Significant
5	The effect of MVE/BVE (Y1) to Q ratio (Y2)	0,767	0,000	Significant

Note : α = 0,05

b) Indirect effects (indirect effects) and proof of hypotheses: Statistical Calculation of Mediation Variable Test with Sobel Test Method.

- Hypothesis proving the indirect effect of DER to Q ratio through MVE / BVE Z_value can be calculated with the following formulation.

$Z\_value = (a_1 \times b) / SQRT (b^2 \times SE_a{}^2 + a_1{}^2 \times SE_b{}^2)$

Table 4.4 shows that the indirect effect of DER on Q ratio through MVE / BVE by using the Sobel Test produces a Z-value of 2.03612 and this shows a Z-Value> 1.96 (Z-table for α = 0.05 is 1.96). In conclusion the indirect effect of DER on Q ratio through MVE / BVE is significant.

- Proving the hypothesis of the indirect effect of DPR on the Q Ratio through MVE / BVE.

Z_value is calculated by the following formulation.

$Z\_value = (a_2 \times b) / SQRT (b^2 \times SE_a{}^2 + a_2{}^2 \times SE_b{}^2)$

Table 4.3 shows that the indirect effect of the DPR on the Q ratio through MVE / BVE with the Sobel Test produces a Z-value of 2.54751, which shows a Z-Value> 1.96 (the Z-table for α = 0.05 is 1.96). In conclusion the indirect effect of the DPR on the Q ratio through MVE / BVE is significant.

TABLE III. SOBEL TEST FOR INDIRECT EFFECTS X1 AND X2 TO Q RATIO WITH MVE/BVE AS MEDIATION VARIABLE.

No	Indirect effect	Z	Result
1.	Infirect effect of DER to Q ratio with MVE/BVE as mediation variable	2.03612	Significant
2.	Indirect effect of DPR to Q ratio with MVE/BVE as mediation variable	2.54751	Significant

- Thus Hypothesis 1 which states that, Investment Decisions mediate the effect of increasing funding decisions in increasing company value, is proven.
- Thus Hypothesis 2 which states that investment decisions mediate the effect of increasing dividend policy in increasing company value, is proven.

The results of proving hypothesis 1 turned out to indicate that investment decisions mediate the effect of funding decisions on firm value. This is reinforced by the significant influence between funding decisions on investment decisions, but the influence of funding decisions is not significant on the value of the Company. This shows that the decision on funding by using debt does not affect the value of the company, or in other words long-term debt does not necessarily affect the perception of investors on the stock exchange. In this case the share price as an element of company value is not affected by the funding decisions made by the company. On the other hand, the use of long-term debt in investment decisions is proven to affect the value of the company, this is reinforced by the influence of funding decisions on investment decisions proven to be significant and the effect of investment decisions on firm value has also proven significant.

The results of the hypothesis 2 shows that dividend policy significantly influences the value of the company by mediating investment decisions. This is reinforced by the influence of dividend policy on firm value is significant, and the influence of investment decisions on firm value is also significant. Dividend policy is a policy relating to the distribution of dividends to shareholders. This dividend distribution shows that the company is in a condition of making a profit and this shows the company's consistency to share profits. This situation will be responded positively by investors so that the company's stock price has increased which reflects an increase

in the value of the company. The result indicated by the influence of dividend policy on firm value is significant. While the effect of dividend policy through investment decisions on corporate value is also significant. Accordance with bird in the hand theory which states that investors like the distribution of dividends on a regular basis. The Result indicated by the significant influence of dividend policy on firm value.

IV. CONCLUSION

The influence of funding decisions has no significant effect on firm value. This shows that the use of corporate debt does not directly affect the value of the company and this illustrates that capital market players do not respond to funding decisions in the use of debt. The effect of funding decisions on the value of a new company occurs when mediated by investment decisions, this is indicated by the significant influence of investment decisions on company value.

The effect of dividend policy on firm value is significant. This shows that the dividend policy was responded positively by investors. Thus the dividend policy affects investors' perceptions of the company. The effect of dividend policy on firm value by mediating investment decisions is also significant.

The company's management is expected to consider the optimal proportion of debt in the company's capital structure. The management indeed thinks that increasing the amount of debt can increase profits (the effect of tax deductible expenses). In addition, the courage of the company's management to use debt is related to the company's better prospects in the future. Funding decisions with debt will lead to financial distress that is sensitive to changes in economic conditions. Thus the company's management can restructure its capital structure to reduce the possibility of financial distress. In addition, management needs to pay attention to the level of financial risk associated with the use of debt by the company. This needs to be done, because the use of debt forms the perception of investors, that the increase in debt will result in an increase in financial risk that will be accepted.

Dividend policy must reflect an increase in dividend per share for shareholders. Although shareholders often speculate before the announcement of the amount of dividend to be shared, information on the amount of the dividend will give a hint of the profits the company is receiving. An increase in dividend per share will be perceived by investors as an increase in corporate profits. Although the results of this study indicate that the effect of the dividend policy is not significant on the value of the company, dividend policy that prioritizes the welfare of shareholders will be responded positively by investors.

The company's decision to take advantage of profitable investment opportunities in the future can encourage corporate investment in conducting its business in a changing business and macroeconomic situation. The size of the investment decision and the value of the company are determined by the stock price. Investor pragmatism in the stock exchange is often a strong enough argument for the formation of stock market prices. This means that the formation of stock prices is much influenced by investor predictions of the company's external macro conditions, particularly macroeconomic conditions that are affected by global economic conditions. External macro conditions like this can be a strong argument for management to consider the company's external macro conditions in corporate financial decisions. Integration of strategies, objectives and internal company policies with predictions of macroeconomic conditions can provide adequate information for investors. Thus investors can make investment decisions with more comprehensive considerations.

REFERENCES

[1] J.F. Weston, and T.E. Copeland, Manajemen Keuangan. Jakarta: Binarupa Aksara Publisher, 2010.

[2] J.C. Van Horne, Prinsip-prinsip Manajemen Keuangan. Prentice Hall: Simon & Schuster (Asia Pte), Ltd, 1997.

[3] Damodaran and Aswath, Damodaran on Valuation, Security Analysis for Investment and Corporate Finance. John Wiley & Sons, Inc., 1994.

[4] P.C. Chang, C.H. Liu, J.L. Lin, C.Y. Fan and C.S. Ng, "A neural network with a case based dynamic window for stock trading prediction," Expert Systems with Applications, vol. 36, no. 3, pp. 6889-6898, 2009.

[5] P. Jiraporn, and Y. Liu, Capital Structure, Staggered Boards, and Firm Value, Financial Analysts Journal, pp. 49 – 60, 2008.

[6] L.A.B. Baros and A.D.M Silviera "Overconvidence, Managerial optimism and Determinant of Capital Structure," Social Science Research Network Electronic Paper Collectipon, 2007.

[7] R.W. Masulis, "The Impact of Capital Structure Change on Firm Value: Some Estimates," The Journal of Finance, vol. 38, no. 1, pp. 107-126, 1983.

[8] E.F. Fama, and K.R. French, "Taxes, financing decisions, and firm value," The journal of Finance, vol. 53, no. 3, pp. 819-843, 1998.

[9] K. Chen, "The Influence of Capital Structure on Company Value with different growth opportunities," paper for EFMA 2002 Annual meeting, FAME and University of Lausanne, 2002.

[10] R.W. Masulis, and B. Trueman, "Corporate Investment and Dividend Decisions Under Differential Personal Taxation," Journal of Financial and Quantitative Analysis, vol. 23, no. 4, pp. 369-385, 1988.

[11] A. Agrawal and N. Jayaraman, "The dividend policies of all-equity firms: A direct test of the free cash flow theory," Managerial and decision economics, vol. 15, no. 2, pp. 139-148, 1994.

[12] K. Hussainey, C.O. Mgbame and A.M. Chijoke-Mgbame, "Dividend policy and share price volatility: UK evidence," The Journal of risk finance, 2011.

[13] Sudarma and Made, "Pengaruh Struktur Kepemilikan saham, Faktor Intern dan Faktor Ekstern Terhadap Struktur Modal dan Nilai Perusahaan (Studi pada Industri yang go public di Bursa Efek Jakarta)," Unpublished.

[14] Brigham, F. Eugene and P.R. Daves, Intermediate Financial Management, Eighth Edition, South-Western: Thomson, 2004.

[15] C.W. Smith and R.L. Watts, "The Investment Opportunity Set and Corporate Financing, Dividend, and Compensation Policies," The Journal of Financial Economics, pp. 263-292, 1992.

[16] Kallapur, Sanjay, and Trombley, A. Mark, "The Investment Opportunity Set: Determinant, Consequences and Measurement," Journal of Business Finance & Accounting, vol. 27, no. 3, 2001.

[17] Adam, Tim, and V.K. Goyal, "The Investment Opportunity Set and Its Proxies Variables," Unpublished.

[18] Solimun, Analisis Multivariat Pemodelan Struktural Metode Partial least Square-PLS, CV. Citra Malang, 2011.