

Analysis of Investment Opportunity Set to Construction Companies Registered in IDX

Siswati Andaswari^{#1}, Hadi Pitono^{#2}, Rusdiah Iskandar^{#3}

[#]*Faculty of Economic and Business, University of Mulawarman*

Samarinda, Indonesia

¹siswati_andaswari@yahoo.com

Abstract— The purpose of the company is increasing the value of the company so as to provide prosperity for the owners or shareholders. Construction companies are expected to be investments that provide benefits to shareholders. Investors expect return on investment in dividends. This study aims to analyze the effect of investment opportunity set on the dividend policy of construction companies listed on the Indonesia Stock Exchange. The Investment Opportunity Set describes the breadth of investment opportunities for construction companies. Companies with high growth are often said to have high investment opportunities (IOS). This motivates the managerial side reinvesting in large amounts. This research is explanatory research. The sample of study was 14 construction companies listed on the Indonesia Stock Exchange with secondary data in the form of time series data of 2010-2016. The variables used Investment Opportunity Set and Dividend Policy. The Investment Opportunity Set variable was measured by Capital Expenditure to Book Value of Asset Ratio (CAPBVA), Earning Per Share (EPS) and Market Value Assets to Book Value Assets (MVA / BVA) indicators. The Dividend Policy variable was measured by Dividend Payout Ratio (DPR) indicator and Dividend Per Share (DPS) indicator. Data analysis used Structural Equation Modelling (SEM) approach using SmartPLS 3.0 program. Based on the result, IOS had a positive and significant influence to dividend policy of Construction Company listed in Indonesia Stock Exchange. Furthermore, IOS to dividend policy was equal to 0,267 with positive direction and result of research showed p-value 0,001. This means that the greater the IOS of construction companies listed on the Indonesia Stock Exchange had a positive and significant impact on the company's dividend policy.

Keywords— Investment Opportunity Set, Dividend Policy, Construction Company

I. INTRODUCTION

Construction companies require substantial funds to run the company's activities, funds derived one of them comes from corporate profits. After making profit, the company must decide what to do with the money it generates. The company can make the decision namely; expanding or sharing the profits with the shareholders as dividends, in which these two decisions are the opposite objective. Therefore, dividend policy becomes important because the company must make decisions relating to

investment activities appropriately for the maximization of profit and value of the company. The dividend payout is largely influenced by the behavior of investors who prefer high dividends resulting in lower retained earnings. Investors assume that the current received dividend becomes more valuable compared to the later acquired capital gains. On the other hand, the management holds cash to pay off debts or increase investment. Therefore, management needs to create an optimal dividend policy to maximize corporate value.

The optimal dividend policy is a dividend policy that creates current dividend balance and future growth so as to maximize the company's stock price [6]. Companies, that do not have the funds, must issue dividends for investment needs so require additional capital is to issue new shares or lend to other parties [34]. According to [20], dividend is one of the investment attractiveness for investors in the primary market and secondary market. In paying out dividends, the company may apply one of the four types of dividend policies. First, it consists of a stable dividend policy. Second, the dividend policy consists of the determination of the minimum amount and external dividends. Third, the dividend policy consists of the determination of a constant dividend payout ratio. Fourth, it consists of flexible dividend policy.

The dividend policy of a company has an important impact on the people involved [19]. Dividends represent the rate of return on their investment for shareholders. In addition, dividend can be a signal about the cash adequacy of a company to pay interest or even pay off the loan principal for lender. For the dividend management is the cash outflow that reduces the company's cash.

According to [24], dividend policy of company involves two parties of interest and conflicting,

namely the interests of the company with retained earnings and the interests of shareholders. In addition, the interest of a bondholder may also affect the amount of dividends paid. The dividends paid in to the shareholders depend on the policies of each company, thus requiring better consideration of the company's management. The dividend policy essentially determines the share of profits to be distributed to shareholders.

Dividend policy is a difficult decision for the company management. The dividend distribution on one side will meet the investor's expectation to get the return as a result of his investment, while on the one hand the dividend distribution is expected not to threaten the company's survival. Company management should be able to make an optimal dividend policy means that the policy should result in a balance between the interests of shareholders through dividends and corporate interests in terms of growth. The dividend payout decision is one of the most difficult considerations for the company, since it can hamper the growth and survival of the company [11]. The availability of future investments or better known as the Investment Opportunity Set (IOS) is considered as a factor influencing the company's dividend policy. According to [24], if the company's investment opportunities are many in number, the percentage of profit paid by companies will tend to be zero. On the other hand, if the company does not find a lucrative investment opportunity, the dividend will be paid 100% of the profit.

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According to signalling theory, investment spending gives a positive signal about future growth of the company, thus increasing the stock price used as an indicator of corporate value [26]. Decisions concerning investment will determine the source and form of funds for its financing. The problem that must be answered in funding decisions related to the source of funds is whether internal or external sources, the amount of debt and capital itself, and how the type of debt and capital will be used, given the financing structure will determine the cost of capital which will be the basis of determining the required return desired [26]. Such conditions can determine an IOS of a company [29]. Companies with high IOS tend to pay lower dividends than companies with low IOS or in other words high IOS in the future to make the company said to have high growth rates [23]. Investment Opportunity Set is an investment opportunity whose amount depends on the expenses set by management in the future, and is an investment that is expected to get a greater return.

Companies with a high investment opportunity set rate will have the ability to generate higher profits. Thus, the market will give a bigger response to the company that has the opportunity to grow. The high market response to earnings indicates that the company has a good profit quality [40]. The value of the firm formed through the stock market value indicator is also strongly influenced by investment opportunities. In general, IOS describes the breadth of opportunities or investment opportunities for a company but depends on the choice of corporate spending for the future [3].

Based on the description above this study aims to analyze how the influence of investment opportunity set against dividend policy of construction companies listed on the Indonesia Stock Exchange.

II. LITERATURE REVIEW

A. *Investment Opportunity Set*

Investment opportunity sets play a very important role in corporate finance related to achieving company goals. The value of the company depends on the value of the assets owned and the investment opportunities not only physical, but also opportunities that provide benefits for the company.

The Investment Opportunity Set describes the breadth of opportunity or investment opportunity for a company, but it is highly dependent on the choice of corporate expenditure for the future in the future [27], [5], [30]. Thus, the Investment Opportunity Set is unobservable, so we need to select a proxy that can be associated with other variables in profitability [1].

Investment opportunity set as one of the indicators for investors to know the company possibility of growing or not. Investment opportunity sets have an effect on the company's decision to invest. The more proxy investment opportunity sets that determine the group or characteristics of the firm, the less an error in determining the classification of the growth rate of the firm. Therefore an investment opportunity set requires a proxy that implies the asset value of the book value of the asset and the equity and the value of the opportunity for the company in the future.

Investment Opportunity Set is the availability of future investment alternatives for the company [13]. IOS is an investment decision that is a combination of assets in place and investment options in the future. Sri [32] stated that investment opportunity set is a combination of assets owned and investment choices in the future with a positive net present value. This study uses a single proxy based on the price of Market to Book Value of Equity Asset (MBVA). Keown et al. [17] states that when the company's investment opportunities go up, the dividend payout ratio should drop. There is an inverse relationship between the amount of investment and the dividend payout ratio. The research results of [28] and [7] stated that the investment opportunity set had a positive and significant effect on the dividend policy. According to [7], the company's investment provides a good profit rate so that the company can distribute high dividends.

According to [8], IOS is the value of a company whose size depends on future management-defined expenditures, which are currently investment choices that are expected to result in greater returns. Investment Opportunity Set (IOS) is a combination proxy of corporate growth [31]. The IOS score is calculated by a combination of the proxy type sharing that represents the value of the on-premises

assets and the future growth value of the firm. According to [27] and [16], IOS is a combination of the value of on-premises assets and future opportunity value. The indicators used to measure investment opportunity sets are as follows:

1) *Earnings per share / price ratio (E / P)*: Earning per Share or ratio per share to the stock market price is an IOS that describes how much earning power owned by the company. The greater the level of the company's ability to generate profits, the more attractive the companies invest. This has a positive impact on stock returns. Earnings per share / price ratio (E / P) is calculated based on the following formula:

$$E/P = \frac{\text{Earning per share}}{\text{price ratio}}$$

Note:

Earnings per share: The net income of the company is divided by the number of shares outstanding

Stock closing price: Year-end closing price.

2) *Capital expenditure to book value of asset ratio (CAPBVA)*: Capital expenditure to book value of asset ratio (CAPBVA) is used to see the amount of additional capital flows of the company. With this additional capital stock the company can utilize it for additional investment of productive assets, so that potential as a company grows. Therefore, the higher the ratio of MVA / BVA, the higher the investment opportunity owned by the company relating to the asset in place of Capital expenditure to book value of asset ratio is calculated based on the following formula:

$$CAPBVA = \frac{\text{Additional capital Flows of the company}}{\text{Total Asset}}$$

Note:

Additional Fixed Assets: Decrease of assets of the year concerned with the previous year.

Total Assets: Total company wealth

3. *Market Value Assets to Book Value Assets (MVA / BVA)*: Market to Book Value of Asset is an IOS proxy based on price. This proxy is used to measure the growth prospects of a company. It is based on the number of assets used in running their business. For investors, this proxy is taken into consideration in assessing the condition of the company. The higher the MV / BVA the greater the asset the company uses in its business, the more likely its share price will increase, the stock return will increase. The formula used is as follow:

$$MVA/BVA = \frac{\text{Total asset} - \text{Total Equity} + (\text{outstanding shares} \times \text{Closing stock price})}{\text{Total Asset}}$$

B. Dividend Policy

Dividend policy is a financial activity related to the distribution of profits obtained by the company. Up to now there is an opinion that the dividend policy is part of the funding decision. The dividend policy concerns the decision whether the profits earned by the company should be distributed to the shareholders in the form of cash dividends and the repurchase of such shares or profits should be withheld in the form of retained earnings for future investment expenditures. If the finance manager decides to distribute the profits earned in the form of dividends, then the dependence on external funding sources becomes even greater. If the financial manager considers that the company has an unfavorable financial leverage, then the profit should be retained to improve the company's capital structure [39].

The company must determine the appropriate dividend policy to deal with the problems caused by the dividend. Each company sets different dividend policies. Companies need to make a policy about the amount of profit that will be distributed to shareholders or commonly called Dividend Payout Ratio. The dividend payout ratio determines the amount of profit that can be held in the company as a source of funding. Holding current profits in larger amounts within the company means less money will be available for current dividend payments [14].

The dividend policy is a policy to share the profit to shareholders to be distributed in the form of dividends and the amount of retained earnings for the needs of business development [9]. The dividend policy should be formulated for the two basic objectives namely; maximizing shareholder wealth and sufficient financing. The two objectives are interconnected and must meet various legal, contractual, internal, growth, owner-related and market-linking factors that limit policy alternatives.

Handayani [10] argues that the purpose of dividend distribution is maximizing the prosperity of shareholders and showing the company's liquidity. The dividend payout is expected to be an indicator that the firm's performance is able to cope with the economic turmoil as well as give results to investors. Some investors will view the dividend risk lower than capital gain. Furthermore, it meets

the consumption needs of shareholders. Dividend is used as a communication tool between managers and shareholders. The overall information about the company's internal condition is often unknown to investors so that through the company's growth dividend and the company's prospects can be known.

According to [18], [21], and [30], dividends are the share of profits distributed to shareholders. There are two types of dividends, which are preferred stock dividends paid in fixed amounts, and the common stock dividends paid to shareholders if the company makes a profit. Thus the amount of dividends paid will increase the value of the company or stock price. Dividends paid to shareholders are subject to the policies of each company, requiring more serious consideration of the firm's management. Dividend policy plays an important role in determining corporate value. Stockholder (dividend shareholder) views dividends as a signal of the company's ability to increase revenue ([22], [12] and [2]). The indicators used to measure dividend policy are following:

1) *DPR (Dividend Payout Ratio)*: Dividend payout ratio is the dependent variable of the research. Payout ratio dividend is something that is determined by the company to pay dividends to shareholders every year based on the small earnings after tax and measured by the ratio scale. Dividend payout ratio is calculated based on the formula:

$$\text{Dividend Payout Ratio} = \frac{\text{Dividend Per Share}}{\text{Earning Per Share}}$$

2) *DPS (Dividend Per Share)*: Dividend per Share is the total of all cash dividends distributed to shareholders compared to the number of outstanding shares and measured by the ratio scale [38]. Dividend Per Share (DPS) is measured by the following formula:

$$\text{Dividend Per Share} = \frac{\text{Cash Dividend}}{\text{The number of outstanding shares}}$$

III. RESEARCH METHOD

A. Research Design

Design of the study will be explained about the first step to the end of the procedure of doing this research form objective, effective, valid, and efficient process and results. This research has a purpose to get empirical evidence of Investment Opportunity Set (IOS) influence on dividend policy of construction company listed in Indonesia Stock

Exchange. Based on the purpose of the research, this research includes explanatory research, which will explain the causal relationship between the independent variables to the dependent variable reinforced by the moderator variable through hypothesis testing [33].

B. Population and Sample

The population used in this study is all construction companies in Indonesia, while the sample in this study is 14 (fourteen) construction companies through the analysis of secondary data in the form of time series data in 2010-2016.

C. Data Analysis

Data analysis of the research uses Partial Least Square (PLS). PLS is an analytical tool that allows researchers to get the value of latent variables for prediction purposes. The orientation of PLS analysis shifts from testing the causality / theory model to the component based predictive model. PLS has the advantage of being able to estimate large and complex models with hundreds of latent variables and thousands of indicators.

The analysis model of all latent variables in the PLS consists of three sets of relationships: inner model that specifies the relationships between the structural model, outer model that specifies the relationship between the latent variables with the indicator or the variables of the manifest (measurement model), and weight relation where the case value of the latent variable can be estimated. Without loss of generalization, it can be assumed that latent variables and indicators or manifests of variables on the zero mean scale and variance units are equal to one so that the constants parameter can be omitted in the model.

IV. RESEARCH AND DISSCUSION

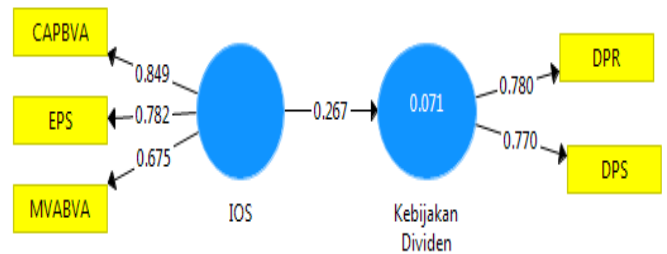
Analysis of the structural models of the research formed is done with regard to the values or numbers coefficient of the relationship that emerged from each model. Full Structural Equation Model (SEM) analysis intended to test the model and hypothesis developed in this study. Model testers in Structural Equation Model are done by significance test of causality through path coefficient. Equation Model (SEM) analysis intended to test the model and

hypothesis developed in this study. Model testers in Structural Equation Model are done by significance test of causality through path coefficient.

A. Outer Model Testing

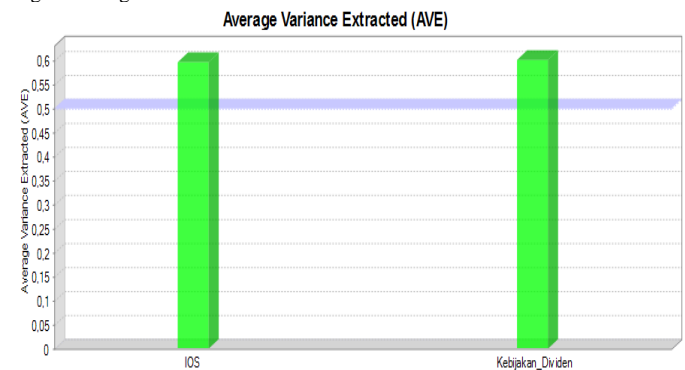
With the help of SmartPLS Version 3 software, the results of research data are processed which results are as follows:

Fig. 1 Structural Equation Modelling (SEM) with PLS



Based on the image above, it is known that there are all indicators whose value is above 0.5 (factor loading), so that all indicators are passed for analysis [15]. In addition, the value of loading factor, convergent validity can also be seen from Average Variance Extracted (AVE). In this study the AVE value of each construct is above 0.5. Therefore, there is no convergence problem of validity in the model under test.

Fig. 2 Average Variance Extracted



Due to the absence of convergent validity problem, the following tested is the problem related to discriminant validity. Discriminant validity can be tested by comparing the AVE quadratic root values with correlation values between constructs or by looking at cross loading values in each variable.

TABLE I.
CROSS LOADING

	IOS	Devidend Policy
CAPBVA	0,849	0,225
DPR	0,209	0,780
DPS	0,205	0,770
EPS	0,782	0,154
MVABVA	0,675	0,220

From the table above, it is seen that the value of loading indicator that make up the construct (variable) is bigger than the other cross loading value, so this research model can be said free from discriminant validity problem. To ensure that there are no measurement-related issues then the final step in the outer model evaluation is to test the unidimensional of the model. The unidimensional test was performed using composite reliability and alpha Cronbach indicator. For both these indicators the cut-off value point is 0.5.

TABLE II
COMPOSITE RELIABILITY AND CRONBACH'S ALPHA

	Composite Reliability	Cronbach's Alpha
IOS	0,815	0,660
Kebijakan Dividen	0,751	0,733

From the table above, it appears that both the overall composite reliability value of the construct is above 0.5 and the value of Cronbach's alpha is above 0.5, except liquidity and profitability, so it can be said that no reliability problems / unidimensional found in the model in this research

B. Inner Model Testing

After the estimated model meets the Outer Model criteria, the next test is structured model (Inner model). SmartPLS 3 calculation results related to R Square values are as follows.

TABLE 3.
R SQUARE

	R Square
Devidend Policy	0,071

Data Source: Research Results, SmartPLS Output, 2017.

Based on the above table it is known that the value of 0.071 for the construct of dividend policy means that the investment opportunity set is able to

explain the dividend policy variant of 7.1% assuming no other variables. Furthermore, the structural model equation obtained from SmartPLS calculation is as follows:

TABLE IV
PATH COEFFICIENTS (DIRECT ETECT)

	Original Sample	Sample Mean	Standard Dev.	T Statistics	P Value
IOS → dividend policy	0,267	0,317	0,079	3,386	0,001

Table 4 can create a structural equation model of investment opportunity set influence on dividend policy, that is:

$$Y = \alpha_1 X$$

$$Y = 0.267 X$$

Some things that can be explained from the structural equation of the model visible effect of investment opportunity set on dividend policy is equal to 0.267 with the direction of positive influence by assuming other variables are constant. Besides, the result of the research shows that p-value 0,001 is smaller than 0,05 with T-statistic value 3,386 bigger than value of T-table 1,97. This means that investment opportunity sets have a positive and significant effect on the dividend policy of construction companies listed on the Indonesia Stock Exchange. This means that the greater investment opportunity set of construction companies listed on the Indonesia Stock Exchange has a positive impact on the company's dividend policy. This indicates that the increased IOS value will lead to increased dividend payouts. The results of this study indicate that the investment made the company provides a good level of profit so that the company can distribute a high dividend. In addition, management may want to show the company the company a good company with high investment opportunities will make investors interested in investing or financing opportunities. Thus the company can earn profits are also large and the greater the profits earned company then the greater the dividends paid to shareholders.

Generally, investors prefer stable and constant dividend payouts, as the volatile payments of dividends will lead to the misinformation of information and may dispel investor calm. The dividend payout is attributed to the profits earned

by the company and the amount available to the shareholders. The amount of funds distributed as dividends or reinvested is not the same as profit after tax. Funds obtained from the results of operations during one period are the amount of profit after tax plus depreciation. It does not mean that the funds can be distributed as dividends. This is because the company will not be able to make replacement of fixed assets in the future if all the funds are distributed as dividends.

According to [37] if the company has any remaining earnings after financing all reasonable investment opportunities, this profit is then distributed to shareholders in cash dividends. Otherwise, the company will not pay dividends. When the dividend policy is treated as a mere funding decision, cash dividend payments are a passive residual. The percentage of profit paid as dividends will fluctuate over time following the fluctuations in the number of acceptable and available investment opportunities for the company. High corporate growth rates in the future are usually followed by a decrease in cash dividends. Companies with high growth are often said to also have a high investment opportunity (IOS). This motivates the managerial side to reinvest in large amounts. Increasing the growth of the company, the opportunity invests higher. This affects the amount of dividends to be paid to the shareholders, as the profits earned by the company will generally be withheld to invest. Rizal [25] stated investment opportunity or investment opportunity set describes the breadth of opportunity or investment opportunity for a company. According to [6], for one year the company may pay zero dividends because the company needs money to fund good investment opportunities but in the next year the company may pay huge dividends because of poor investment opportunities and not have to withhold a lot of money.

V. CONCLUSIONS AND SUGGESTIONS

Based on the results of research, it can be concluded that the investment opportunity set has a positive and significant effect on the dividend policy of construction companies listed on the Indonesia Stock Exchange. This means that the greater investment opportunity set of construction

companies listed on the Indonesia Stock Exchange has a positive impact on the company's dividend policy. Therefore, there are several suggestions that can be given through the results of this research either to the company, investors or for further research development. First, the value of R square was relatively small then for further research need to examine other variables that affect the company's dividend policy. Second, the company should increase the company's profit because with high profits investors will be more interested to invest funds. Last, further research is expected to investigate deeper not limited to the variables that have been studied, but need the addition of other variables and is expected to use a wider range of research objects.

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