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INVESTMENT OPPORTUNITY AND INDUSTRIAL GROWTH IN INDONESIA

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ABSTRACT

This study is to test the Investment Opportunity Set based Industrial Growth on firm value that will fill the gap between profitability and firm value. This research offers a single solution, by developing the synthesis of IOS variable with industrial growth, using the sample of 94 companies on the Indonesia Stock Exchange in 2005-2011. The test result finds out that Investment Opportunity Set based Industrial Growth in Indonesia can mediate the profitability on firm value.

Keywords*:* Investment opportunity set; Industrial growth; Firm value; Indonesia Stock Exchange; Tobins Q.

1. INTRODUCTION

The weakening international economic condition has caused the world commodity prices to decline (Robiyanto 2018a; Robiyanto, Wahyudi, and Pangestuti 2017). Indonesia, which has been relying on natural resources must immediately move to an export-oriented sector and absorb a lot of labor. Hence, Indonesia should diversify the economy to the manufacturing sector which is one of the backbones of the national economy. This is because manufacturing sector contributes significantly to the economic growth of Indonesia. In the early 1990s, Indonesia's manufacturing industry grew rapidly. But now the growth is declining. This can be a turning point for Indonesia to re-advance the manufacturing industry. There are several strategies that governments can do to achieve this. These strategies are focused on creating a manufacturing industry that is resistant to crisis shocks and industry conditions or climates that can attract investors. With this strategy, it is expected that the manufacturing industry can strengthen again to contribute optimally to the national economy.

To prevent the phenomenon of "Middle Income Trap," the role of a country's manufacturing sector to its economy must reach about 40 percent. This needs to get seriousness from various parties to get it. Proven current national economic growth is expected to reach 5.4 percent in 2018. The optimistic efforts of the government of Indonesia by president Joko Widodo's administration in achieving that growth rate has been done by improving the climate of ease of business and investment, which will impact on increasing employment. Economic growth in Indonesia is supported by the growth of production of large and medium manufacturing industries which has

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been achieved in the third quarter of 2017, amounted to 3.89 percent and the same period in 2016 of 4.87 percent. The improved manufacturing sector is the metal industry with 11.97 percent growth. Currently, the biggest boost is driven by the food and beverage industry with growth of 9.24 percent and 3.4 percent respectively but contributes up to 27.13 percent of total production growth. Also, there is also the chemical industry which also recorded growth of 9.3 percent. But there are also manufacturing industries that recorded negative performance such as computer industry, electronic goods and optic which decreased 2.73 percent.

Many previous studies have examined the role of the manufacturing industry to increase Gross Domestic Income and labor absorption. The company's internal effort is to maintain the organization's governance and capital structure. The optimal utilization of capital structure may effects company debt level. Pecking Order Theory of capital structure is one of the most important theories in corporate debt. This theory supports the existence of adverse selection, namely the existence of hierarchy in the source of funding for the company. The source hierarchy prefers choice against external funding sources. When external sources of funding are required, then these theoretical support companies will prefer debt to equity, because of lower agency costs associated with debt problems. The concept of determining the source of funding for investment has been extensively studied with interesting results for review.

The firm financial management is an interesting topic in the recent decade. Research have been made in finance field empirically to explain about the variations in capital structure consisting of profitability, leverage, firm size and dividend policy that can improve firm value. This study exists from the research gap on profitability utilization to enhance firm value. Lewellen, Loderer, and Martin (1987) argues that the profitability has significant negative influence on the firm value. While Michalski (2008); Reed (2010); Shaheen (2012); Ernayani and Robiyanto (2016) argues that the profitability has significant positive influence on the firm value. This opens up the opportunities for further research to fill the gaps of empirical research on the profitability on the firm value in Indonesian manufacturing industry. Investment Opportunity Set based Industrial Growth concept in this study is defined as a series of investment opportunities showed by the amount of the book value of the market compared to the value of real firm assets, by taking into account the industrial growth. Investment Opportunity Set based Industrial Growth mediates the influence of the profitability on the firm value.

This study follows the research of Kallapur and Trombley (2001), they suggest that the main factor in determining the IOS is industrial factor such as barriers to entry in the industry factors of market structure, are the number of buyers (consumers), the number and size of the firm or seller, the nature of the product (identical or undifferentiated), and barriers to entry or exit the market which is a threat for a new firm. The objective of this study is to analyze the relationship between the sales growth of the firm than the industry and investment decisions of the firm. Specifically, this study finds out a relationship between the sales growth of the firm and the behavior of selecting a series of profitable investments to maximize the firm value. The selection of optimal investment program depends on the productivity characteristics of the real assets and claims against the cash flows generated by the asset. Therefore, the understanding of the relationship between the sales growth positions of the firm compared to the industrial growth is very crucial to analyze the funding decisions for the firm investment.

2. LITERATURE REVIEW

The manufacturing industry is one of the main sources of Indonesia's economic growth. Data from the Ministry of Industry showed that from 1967 to 1997, the average growth of manufacturing industry reached 10.9% per year. This figure is higher than the growth of gross domestic product (GDP) in that period which averaged only 6.7%. For the contribution to GDP, the contribution of the manufacturing industry reached its highest level in 2001, at 29%. However, after 2001, the growth trend and the contribution of the manufacturing industry continued to decline. Until 2016, manufacturing industry growth only amounted to 4.29% with contribution to GDP of 20.51%. In the beginning of 2017, good news hit the manufacturing industry. The Nikkei Purchasing Managers Index (PMI) released by IHS Markit shows Indonesia's manufacturing index in January-April 2017 above 50, except February (49.3).

The PMI index above 50.0 indicates expansion in the manufacturing sector, while below 50.0 indicates a contraction or decline in output in the sector. The expansion of the manufacturing sector shows that activity in this sector is starting to wiggle or show an increase. This certainly affects the output generated from the manufacturing sector and contributes to GDP and economic growth. Based on these matters, this paper describes further why the manufacturing industry is re-stretching and what obstacles are still faced by the manufacturing industry. The development of the manufacturing industry is one indicator that confirms that the economy of a country is moving up is the stretching that occurs in the manufacturing industry. Efforts to improve the manufacturing sector should be done immediately by growing investment desire for foreign and domestic investors. The sincerity of the Indonesian government to increase investment can be felt by creating a conducive environment for the manufacturing business.

Investment becomes important for economic growth related to the contribution it provides (Robiyanto 2018b). Investment contribution to economic growth can be seen from demand and supply side. On the demand side, increased investment stimulates economic growth by creating an effective demand. On the supply side, increased investment stimulates economic growth by creating more capital reserves which then develop in the form of increased production capacity. Investment in the manufacturing industry sector which tends to increase annually, in contrast to economic growth and labor absorption fluctuate and only slightly increased. Even for the absorption of labor from 2001 to 2015 is still below 20%. Absorption of manufacturing industry in the year 2001 amounted to 13.2%, in 2005 by 12.7%, in 2010 by 12.8%, in 2013 by 13.79%, by 2014 by 13.63% and by 2015 13.87%. For the development of the lowest absorption of work in 2004 of 11.8% and the highest in 2012 amounted to 14.35%. While the economic growth in 2001 amounted to 3.64%, in 2005 of 5.69%, in 2010 by 6.22%, in 2014 by 5.02% and in 2015 by 4.79%. The lowest economic growth in 2001 was 3.64%, and the highest in 2011 was 6.49%. The concept of investment that can be done manufacturing companies is determined by investment opportunities that are considered profitable in the future.

According McDonald and Siegel (1986); Pindyck (1991), IOS is an investment option that produces a positive NPV while growth is firm ability to increase shareholder value. Jensen (1986) explains that the cash investment may increase in value. Investment decisions in this study are defined as a combination of owned assets (assets in place) and investment options in the future with a positive net present value. Some firms have started investing since they were newly established and have chosen for investment. Investments aim to achieve the sales growth and

reflect the cash flows of the firm today (Ernayani and Robiyanto 2016). The reflection of the cash flow can fund a series of investment made by the firm to obtain expected asset revenue in the future. An investor buys a stock at this time with expectation to gain the rising stock prices or the dividends amount in the future, as a reward for the time and the risk associated with these investments (Robiyanto and Puryandani 2015).

Opportunity growth occurs in two forms: first, projects that require direct investment decisions based on the criteria of Net Present Value (NPV); and second, the option to invest in future projects. High level of industrial competition, any change in the value of growth opportunities will be reflected directly in the firm value. Once an investment project is executed, immediately or in the future, is identified by positive NPV. Determination of investment decisions in funding, it is assumed by the incurred cost once the firm carries the capital adjustment out. There are two sources of the cost. First is internal firm. For instance, a firm may need to perform closing operation of the product output temporarily when installing the new engine; and second, the imperfection conditions at secondary market. For instance, if the firm experiences illiquid condition and associated with the costly asset delivery.

Firm whose stands on industry along with high growth rate should provide sufficient capital in funding the firm operations. Fast-growing firm tend to be able to distribute higher dividends (Brigham and Houston 2012). Furthermore, firms whose have high sales growth and profit rates trend to share the dividends more consistent compared with firm with lower sales growth (Hatta 2002). After sharing the dividends have fulfilled, the remaining funds will be allocated to a series of various investments with expectation to gain the profit. The attempts gain the profit through investments made by seeing to the external conditions of the firm in the industry. The external conditions in this study refers to the sales growth of the firm compared to the total industrial sales. This comparison results a growth ratio of the firm and industry to be able describing the firm concentration in the industry. This ratio provides an interesting view on the relationship of market structure in an industry with a level of investment can be made by the firm to gain the profit.

Campa, Donnenfeld, and Weber (1998) argues that there is a positive relationship between the market structures in an industry with a level of firm investment. The higher the position of the market structures of a company, the higher it's market power. Thus, this matter has influence the firm on the investment behavior of its competitors in an industry. While Sack (2000); Ernayani and Robiyanto (2016) states that the yearly sales growth of the firm along with the level of industrial sales. If the sales growth of the firm is exceeded over the level of industrial sales growth, so the growth ratio of industry and the firm can be used as one of the metrics in making investment decisions. Every investment decision always concerns about the aspect of sales growth that requires the support of raising resources in the firm assets. Supporting without any rising utilization of firm asset should be funded by liabilities or profit.

Hence, if the supportive financial policies have not changed, it will limit the level of sales growth. This constant growth level is crucial because it combines the operations of (profit margin and asset efficiency) and financial (capital structure and retention rates) elements into a single comprehensive measure. Management and investors can begin to measure whether the plans of firm growth in the future are realistic based on current sales performance. It is expected to provide the knowledge and growth to managers and investor.

3. HYPOTHESIS DEVELOPMENT

Miller and Rock (1985) argue by having the assumption of perfect markets, rational behavior, and perfect certainty finds the relationship that the firm value and the dividend policy is irrelevant. In fact, there is informational asymmetry, where the parties who do sales have more information about the firm condition compared to the potential investors. By those different arguments, it will encourage the role of dividends as a signal to outsiders (Lonkani and Ratchusanti 2005).

Research conducted by Fama and French (2000) concludes that the phenomenon occurred disappearing dividend which shows a decrease in the information contained in the dividend payment policy. This is predicted as the result of the increase in institutional ownership, where institutions have better information than individual shareholders. This has an impact at the time of the dividend announcement, the information contained in dividend payments has been reflected in the market stock price (Ernayani, Oktiviana, and Robiyanto 2017). Thus, the dividend payout policy is very expensive and lacking information. Based on the description above, so that the hypothesis 1 in this study is:

H1: Dividend policy has positive influence on the firm value

Research of the effect of Firm Size on the firm value has revealed that large companies have a desire high investment to increase the firm value. Therefore, it can be estimated that large companies tend to have access in funding their investments. The larger the firm size, the higher the capital needs of the firm (Handriani, Wahyudi, and Muharam 2016). The greater the need of companies to capital, then the management will try to fulfill it with the retained profit. Based on the description above, so that the hypothesis 2 in this study is:

H2: Firm size has positive influence on the firm value

Study carried by Utama and Utama (2005); Utama and Sulistika (2015) which conducted in the Indonesia Stock Exchange. It is found out that from four fundamental factors analysed, only profitability (return on assets) has significant positive influence on firm value proxied by the price to book value (P/BV), while the three other factors, such as the growth prospects, the risk level, and the dividend policy have significant influence. Various studies have been conducted to prove that the profitability is positively and significantly associated with the firm stock price (including the result study of Garza-Gil et al. (2011)). Based on the description above, so that the hypothesis 3 in this study is:

H3: Profitability has positive influence on the firm value

Relationship manager with the owner on agency theory is described as the relationship between the principal and the agent. Agent of the manager should be able to manage their finances through a combination of various decisions to enhance shareholder value. The decisions of managers in financial management reflect the composition of financing in the financial structure of the firm. Increased funding through debt is also one alternative to reduce the agency costs. Debt can control managers to reduce inefficient actions and firm performance to be more effective so that investor assessment of the firm will increase. Debt will increase the firm productivity as well as the firm value in the particular composition. However, if the debt composition is excessive, it will lower

the firm value. Even if the long-term debt is as same as to equity, the firm will have a deficit. Therefore, managers must be careful in determining the debt policy to enhance shareholder value. The level of leverage is calculated from the ratio of total liabilities to total assets (Nekhili, Boubaker, and Lakhal 2012; Cassar and Holmes 2003; Pao and Yao 2005). Based on the description above, so that the hypothesis 4 in this study is:

H4: Leverage has positive influence on the firm value

Investment opportunity owned by the firm is very important in determining how the firm growth in the future is. While the firm has some potential investments that can be done in the future, the firm value will increase. Former research that has been done on investment opportunity set by Myers (1976) explains that the firm value is a combination of the assets value and the growth opportunities owned. The growth opportunities can be estimated from the opportunities owned to invest. Investment opportunities that have positive NPV would increase the firm value. So the firm value is not only assessed on the asset, but also by the chance owned to generate the cash flow in the future. Seeing the growth opportunities of the firm investment will influence the decisions of firm funding. Based on the description above, so that the hypothesis 5 in this study is:

H5: Opportunity Set based Industrial Growth has positive influence on the firm value

Investment opportunity is very determined by the profitability condition as a result of the firm operates. Profitability is the part of the capital structure which interpreted as a variation of the funding amount used at a certain time during its operation period. According to Brealey and Myers (1991), the problem of optimal capital structure is faced by many companies. Miller and Modigliani (1961) conclude that the capital structure provides a fundamental understanding in the theoretical framework development of capital structure in the future. Capital structure in the firm lead agency costs. Agency costs occurred as a result of the relationship between shareholders and managers, with the investment. Manager has to balance the interests between profitability and cost if firm choose the source of debt funding turns up from the static trade-off theory developed by Myers (1984).

Static trade-off theory is occurred if managers trying to save on taxes (Abor 2008). While Myers and Majluf (1984); Myers (2001) developed the concept of optimal capital structure based on the idea of asymmetric information. The existence of information asymmetry between the funding providers of the firm that led to the emergence of the relative funding costs varies between the different funding sources. Based on the description above, it can be hypothesized 6 in this research is the positive effect on the profitability of Investment Opportunity Set Base Industrial Growth. Based on the description above, so that the hypothesis 6 in this research is:

H6: Profitability has positive influence on Investment Opportunity Set based Industrial Growth

The role of debt on the firm performance is one of the main objectives of contemporary research for over fifty years (Modigliani and Miller 1958; Miller and Modigliani 1961). However, this role remains as a questioned subject that attracted the attention of many researchers such as Goddard, Molyneux, and Wilson (2004); Huang et al. (2011). Debt can influence the firm investment; it is confirmed in Myers (1976), hence analyzing the possible sources of external funding as debt to

obtain the optimal investment. Making decisions about the optimal and profitable investment is a very important issue. Based on the description above, so that the hypothesis 7 in this research is:

H7: Debt to Assets Ratio has positive influence on Investment Opportunity Set based Industrial Growth

The investment opportunity is based on industrial growth, within the scope of investment theory. According to Gaver and Gaver (1995), Investment Opportunity Set is a series of investments not only in the form of new projects, but also the company activities that are increasing the sales volume and firm profitability, such as product diversification activities, the creation of new products to take advantage of more powerful engines, the market expansion, the addition of assets to support the production, long-term investments as well as many other activities that could increase the firm profitability. The meaning of growth for a company in this study is the ratio of the increase in Market Value of Equity and investment funding of Debt compared to Total Assets. This growth will result in a ratio which is defined as a growth company. Based on the description above, so that the hypothesis 8 in this research is:

H8: Firm size has positive influence on the Investment Opportunity Set based Industrial Growth

The empirical study by Fama (1974), shows a positive correlation with the firm investment of sales growth. Companies that have high growth level are expected to have a high size level that will allow the firm to make investments. From the size perspective of the firm as presented Ernayani and Robiyanto (2016); Wang (2000) show the firm size has positive influence on the investment level. The empirical model by Lord and Farr (2003) shows how the industrial variables such as industrial demand, pricing, industrial or market power concentration, productivity and capital structure variables influence the investment decisions of the firm. They assume that changes in the capital structure to interact with the productivity and industrial structure influencing the investment decisions. Based on the description above, so that the hypothesis 9 in this research is:

H9: Investment Opportunity Set based Industrial Growth mediating the Firm Size influence on Firm Value

Profitability measures the firm ability to generate profits from business activities carried. So that the investors can see how efficiently the company uses the asset and its operations to generate a profit. Profitability also provides a measure on the management effectiveness level of a firm. The firm success in generating the profits will be seen at the value of ROA. The higher the ROA, the higher the profit generated by firm. The high profit produced by the firm reflects that the company has good prospects in the future. Based on the description above, so that the hypothesis 10 in this research is:

H10: Investment Opportunity Set based Industrial Growth mediating the influence of profitability to enhance the firm value

Several studies have been conducted over the last few years in determining the relationship between Debt to Assets Ratio and the investment opportunity set (IOS) and funding decisions (Adam and Goyal 2007; Gaver and Gaver 1995), IOS is an investment or growth of firm selection (Myers 1976). According to Myers (1976), the organization value is composed of assets (real assets

listed on the balance sheet) and the option of future investment (investment in projects that have positive NPV). Investment or growth opportunities can then be interpreted in the scope of the new projects that have positive NPV or investment opportunities that could potentially increase the level of debt; the perception of external parties with organizational performance indicators such as general accounting (Gaver and Gaver 1995; Handoo and Sharma 2014). IOS influences the organization way viewed by managers, owners, investors, and creditors, and investment opportunities to an organization are crucial component of the firm value (Kallapur and Trombley 2001). Based on the description above, so that the hypothesis 11 in this research is:

H11: Investment Opportunity Set based Industrial Growth mediating the influence of leverage on the firm value

4. METHODOLOGY

The population of manufacturing companies in Indonesia Stock Exchange (IDX) in 2011 was 430 issuers, sample selection in this study based on several criteria, among others (1) the company routinely publishes financial statements as of December 31 for fiscal year 2005 up to fiscal year 2011; (2) the company distributes dividends; (3) the company has information relating to various measurement variables, such as: Tobin's predicted firm value, s q, debt to assets ratio, and return on equity. Based on these criteria then there are 94 companies that can meet these criteria. Data source in this research is Bloomberg.

Endogenous variable in this study is the firm value proxied by Tobin's Q measured by the sum of book value and the long-term market debt divided by total assets. Tobins Q value is used as a proxy for the firm value because can show the current financial market estimation about the returns value of each incremental investment. Investment opportunity set, acronym IOS_{growth} is measured by multiplying the market book value (MBV) with sales of the firm growth level on industry. Proxy (IOS_{growth}) is used to proxy the investment opportunities based the growth of the industry because it can calculate the results of the investment choices in the future to take positive advantage of industry growth prospects.

Exogenous variable in this study is firm size which measured using Natural Logarithm the total assets acronym (SIZE). The firm size is used to proxy the natural logarithm of total assets because it is capable to measure the total wealth (total assets) owned by the firm. Second, Leverage is able describing size (proportion) of the total debt used to finance the entire firm investment proxied by debt to assets ratio is measured by dividing the total debt and total assets acronym DAR. Third, Profitability is as one factor that has always been considered as a major factor in the firm ability to pay the investment used as an exogenous variable measured by dividing the profit after tax and total assets. A firm with a history of stable income can be considered to be less risky because the predictable future profit is positive, acronym ROA. Fifth, Dividend policy, which is a size (proportion) of its net profit distributed to shareholders, proxied by the dividend payout ratio as measured by dividend per share divided by earnings per share, acronym DPR.

In this study, there are two regression panels used. That is, the investment growth model is expected to be influenced by firm size with the SIZE acronym, funding option with DAR acronym and profitability with ROA acronym. The second regression model is firm value with the acronym

Tobins' Q influenced by firm size (SIZE), funding (DAR), profitability (ROA), Dividend (DPR) and investment opportunities based on the growth of the industry (IOS_{growth}). Panel regression model used is independently pooled panel because there are no unique attributes of individuals within the measurement set and no universal effects across time.

To test the role of IOS_{Growth} on the firm value uses panel data regression model as follows:

$$\mathbf{IOS_{growth}} = \boldsymbol{\beta}\mathbf{0} + \boldsymbol{\beta}_1 \text{ SIZE} + \boldsymbol{\beta}_2\text{DAR} + \boldsymbol{\beta}_3\text{ROA} + \varepsilon 1 \quad (1)$$

$$\mathbf{TOBINSQ} = \boldsymbol{\beta}\mathbf{0} + \boldsymbol{\beta}_5 \text{ SIZE} + \boldsymbol{\beta}_6\text{DAR} + \boldsymbol{\beta}_7\text{ROA} + \boldsymbol{\beta}_8\text{DPR} + \boldsymbol{\beta}_9 \mathbf{IOS_{growth}} + \varepsilon 1 \quad (2)$$

5. THE EMPIRICAL RESULTS

The testing data in this study is to assess the Goodness of Fit model by using: Chi-Square and Probability, Goodness of Fit Indices (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), Expected Cross Validation Index (ECVI), Akaike's Information Criterion (AIC) and the CAIC, also Fit Index. The test results Goodness of Fit mode using indicators can be seen in Table 1. Table 1. show that all *index goodness of fit* model structured are fit. This is seen from the model results value, which is appropriate by *cut off value* description.

Based on the calculation through path analysis done by using LISREL which covers firm value, firm size, leverage, profitability, dividend payout, and investment opportunity set variables. The next step is to test the hypothesis proposed. The hypothesis result can be seen based on the magnitude of t value on Table 2.

In this study will also see the indirect effect. According to Bollen (1987), the indirect effects comprise all the indirect paths from one variable to another. Hence, the contribution of particular mediating variables can be obscured. There are two indirect effect studied, first is indirect effect of SIZE on TOBINSQ through IOS_{GROWTH}. Second is indirect effect of ROA on TOBINSQ through $IOS_{GROWTH.}$ Third is indirect effect of DAR on TOBINSQ through IOS_{GROWTH}.

Those indirect effect are Size, ROA, and DAR variables through IOS_{GROWTH} on Firm Value (TOBINSQ) measured by Sobel test can be seen on Table 3.

Table 1: The Test Results of Goodness of Fit Model

Model Fit Indicators	Value	Cut-off Value	Conclusion
Chi-Square dan Probabilitas :	P = .39	P > .005	Model fit
1. Minimum Fit Function Chi-Square			
2. Normal Theory Weighted Least Square Chi-Square	P = .39	P > .005	Model fit
Goodness of Fit Indices (GFI)	1.00	P ≥ .90	Model fit
1. Adjusted Goodness of Fit Index (AGFI)	.97	P ≥ .90	Model fit

2. Parsimony Goodness of Fit Index (PGFI)	.67	P > .05	Model fit
1. Root Mean Square Error of Approximation (RMSEA)	0	< .050	Model fit
2. P-Value for Test of Close Fit (RMSEA)	.071	< .050	Model fit
1. Expected Cross Validation Index (ECVI)	.24	1. ECVI (.24) < ECVI for Saturated (.25) Model	Model fit
2. ECVI for Saturated Model	.23	2. ECVI (.23) < ECVI for	
3. ECVI for Independence Model		Independence Model (2.58)	Model fit
Akaike's Information Criterion (AIC) dan CAIC :		1. Model AIC (86.99) < Independence AIC (984.11)	Model fit
1. Model AIC	86.99	and Model AIC (293.59) <	
2. Independence AIC	984.11	Saturated AIC (311.35)	
3. Saturated AIC	90.00	2. Model CAIC (293.59) <	Model fit
4. Model CAIC	293.59	Independence (984.11) and	
5. Independence CAIC	984.11	Model CAIC (293.59)<	
6. Saturated AIC	311.35	Saturated AIC (311.35)	
Fit Index : Normed Fit Index (NFI)	P > .90	.97	Model fit
Comparative Fit Index (CFI)	P > .90	.98	Model fit
Incremental Fit Index (IFI)	P > .90	.98	Model fit
Relative Fit Index (RFI)	P > .90	.94	Model fit

Source: The result of data processing by LISREL.

In this study will also see the indirect effect. According to Bollen (1987), the indirect effects comprise all the indirect paths from one variable to another. Hence, the contribution of particular mediating variables can be obscured. There are two indirect effect studied, first is indirect effect of SIZE on TOBINSQ through IOS_{GROWTH}. Second is indirect effect of ROA on TOBINSQ through $IOS_{GROWTH.}$ Third is indirect effect of DAR on TOBINSQ through IOS_{GROWTH}.

Table 2: Direct Influence of ROA; DAR; *SIZE*; DPR; TobinsQ and IOSgrowth

Variables	Unstandardized Estimate	Coefficient Standardized	T Value
DPR TOBINSQ	.001	.02	.43
SIZE → TOBINSQ	.09	.66	3.79*
ROA → TOBINSQ	.90	.39	1.73**
DAR →TOBINSQ	.24	.28	1.64**
IOS_{GROWTH} → TOBINSQ	1.94	3.26	1.94**
ROA → IOS_{GROWTH}	.39	.10	1.98*
DAR → IOS_{GROWTH}	.16	.11	2.18*
SIZE →IOS_{GROWTH}	.05	.20	3.96*

Source: The result of data processing by LISREL.

Description: (*) significant at α = .05, (**) significant at α = .10

Those indirect effect are Size, ROA, and DAR variables through IOS_{GROWTH} on Firm Value (TOBINSQ) measured by Sobel test can be seen on Table 3.

Table 3: Indirect Effect of Size, ROA, and DAR through IOS_{GROWTH} on Firm Value (TOBINSQ)

Variable	Statistical Test	p-value	Standard Error	Result	
SIZE → IOS_{GROWTH} → TOBINSQ	.620	.534	.284	p value > .05	rejected
ROA → IOS_{GROWTH} → TOBINSQ	2.593	.009	.294	p value < .05	accepted
DAR → IOS_{GROWTH} → TOBINSQ	1.202	.270	.285	p value > .05	rejected

Source: The result of data processing by Sobel Test. Sobel Test calculations are obtained from http://quantpsy.org/sobel/sobel.htm. Input are provided by LISREL output

6. DISCUSSIONS, CONCLUSIONS AND IMPLICATIONS

In this study, we investigate the short-run, and long-run dynamics of the relationship between the This study aims to examine the influence of applying IOS_{GROWTH} on the value that will fill the gap between the profitability and firm value. It also offers a single solution by developing the synthesis of IOS variable with the sales growth in the industry. The test results on the first hypothesis that dividend policy has positive influence on the firm value is not empirically supported. This can be showed by the t value at .43. Dividend policy is considered as one of the most crucial financial decisions for the firm managers. This is because dividend has potential implications on stock prices and the returns. There are facts about the firm necessity pay dividend to shareholders to be able identifying some suitable investment that could potentially bring higher profits than expected by the shareholders. Thus, the dividend payout (DPR) has positive implications but not significantly on the increased firm value (TOBINSQ).

Since dividend is not a main objective for Indonesian investors, and they are more prefer capital gains that can be expected to give a quick profit compared waiting for the company to pay dividends. So, companies should strive to attract investors' investment desires by demonstrating better performance. Thus, the results of this hypothesis testing suggest that managers should make dividend payments to improve the value of the company can be realized. The results of this study suggest that managers should share an average of 22.02% or from earnings per share earned by the company to shareholders as cash dividends. Meanwhile, the average dividend payout ratio (DPR) for the manufacturing industry the result of this research period is 35.13%. This study in line with the study results of Brennan, Chordia, and Subrahmanyam (1998); Easterbrook (1984); Handoo and Sharma (2014).

The second test hypothesis proposes that firm size has positive effect on firm value. The results of this study show this hypothesis has empirical support since the t value is 3.79. Large firm with better access to markets will be able to increase the firm value related to its stock capitalization on capital market. This study is in line with research that has been done by Pervan and Višić (2012); Yildiz et al. (2013); Karadeniz et al. (2009); Srivastava and Laplume (2014); Humphrey-Jenner

and Powell (2011). Public companies in Indonesia will strive to increase the company's growth, by making investments that must be profitable in the future.

The third test hypothesis states that Profitability has positive influence on the firm value. It gets empirical support to the t value at 1.73. This study is in line with the results of research done by Garza-Gil et al. (2011); McConnell and Muscarella (1985); Mai (2017). Many studies have been done and show if the profitability increases, the firm value will also increase as a result of profitability utilization on investments expected to generate positive Net Present Value in the future. The results of this study suggest that managers in Indonesia should take risky investment projects because risky investments will have consequences for the rate of return proportionately. To avoid such high risk then use good corporate governance mechanism so that it can perform good control function.

The fourth hypothesis test, Leverage has positive influence on the firm value. It gets empirical support by t value at 1.64. This can be associated to the fact that the manufacturing firm listed on the Indonesia Stock Exchange has a good capital structure, which is a capital structure that can provide a balance between the marginal benefits of the debt used by the marginal sacrifice of the debt used (Modigliani and Miller 1958). This is consistent with the results of the study done by Lazzarini et al. (2015); Kang, Lobo, and Wolfe (2015). The results of this study suggest that managers should use external sources of funds (debt) in addition to internal funds (equity) in their capital structure. The ability to manage a variety of funding sources is needed to improve company performance. The results of this study on manufacturing companies in Indonesia have shown the ability to encourage the management to use external sources of funds, in addition to internal sourced funds, in the formation of the company's capital structure. However, the use of this debt should be cautious, since the results of Crutchley and Hansen (1989) study suggest that debt levels are too high will make the company bear the cost of the debt agency. The optimal capital structure according to static theory is based on a balance between the benefits of tax austerity on the use of debt against the cost of bankruptcy (Myers and Majluf 1984).

The fifth hypothesis test that Investment Opportunity Set based Industrial Growth has positive influence on the firm value. It also gets empirical support by t value at 1.94. The implication is that the desire to invest will increase when the industrial growth has increased. The results of this study are consistent with Kato, Loewenstein, and Tsay (2012); Cassar and Holmes (2003); Cherkasova and Duniasheva (2014). The results of this study suggest that companies should take profitable investments with due regard to industry conditions. This can be achieved by considering the various conditions in choosing an investment offer. Investments that pay attention to industrial growth conditions and are aimed at profitable projects can generate a positive net present value. Thus, firms must bear a relatively high level of risk, because in the theory of financial management in investments there is always a trade-off between risk and return. If the risk level of an investment is higher, then the expected return of the investment is also high. Investment paying attention to industrial growth conditions on profitable projects means investing in these risky projects, which in turn will increase the profitability of the company. High-growth firms need more money to finance their investment projects. Funding needs are prioritized on internal sources such as retained earnings. Furthermore, to further strengthen the contribution of profitability in achieving increased corporate value, it is necessary to have the best capital structure targeted to finance the profitable investment projects. Optimal capital structure targeted by the company is a combination of own capital and debt (debt) that can balance between risk and return so that the stock price is the

maximum. The industrial growth-based investment policy on this lucrative project will in itself be done as a good signal that can be delivered to the market so that it will affect the stock price.

The sixth hypothesis test that profitability has positive influence on the Investment Opportunity Set based Industrial Growth. This obtains empirical support to the t value at 1.98. Thus, it may be associated to the fact that the manufacturing firm listed on the Indonesia Stock Exchange having profitability by assuming the good chance to compete with the same kind of firm. The results of this study is consistent with Saini and Sharma (2009); Mansoori and Muhammad (2012). The results of this study suggest that managers must achieve high profitability in the company's operations. High profitability will increase the desire to invest in physical assets. High retained earnings are invested in financial assets. To reduce high business risk, retained earnings are used to repay debt in addition to capital gains. By repurchasing stocks, capital gains, and keeping leverage levels low, will result in the risk of bankruptcy. When a company gets a chance to increase a company's profits through increased product orders, then its investment desire can be made by utilizing its retained earnings.

The seventh hypothesis test, Debt to Assets Ratio has positive influence on Investment Opportunity Set based Industrial Growth obtains empirical support to the t value at 2.18. The implication of this study is the optimal capital structure targeted by firm is a combination of own capital and debt. This can balance between the risk and return so that the stock price is a maximum. The results of this study are consistent with Lyandres and Zhdanov (2013); Raz and Amir (2014). The results of this study suggest that managerial firms that have high debt ratios should improve their capital structure by paying off debt through the profitability they have to the level of the company's debt ratio is lower and the financial investment does not exceed retained earnings. However, for companies that require additional funds to finance their operations and investments, so that the ratio of fixed debt is low (conclusive against pecking order) the importance of the company makes the strength of the shareholders of the parents company as the motivator to control the optimal capital structure for the company, by firstly improving the financial performance, and negates opportunistic behaviors from management. This will have implications for increasing investor confidence or shareholder of the holding company on the credibility of the company. Investors will be increasingly moved to put their equity into the company. While for less profitable firms with high debt ratios, long-term dynamic capital structure adjustments can be achieved through increased effectiveness of high debt management into productive and profitable investment projects. High debts are managed to reduce agency conflicts, financing stocks' emissions when the equity market valuation is high or to repurchase the company's shares when the equity market valuation is low. High debt is managed to create investment projects through equity sharing aimed at reducing the level of output market competition. Thus, increasing the effectiveness of debt management can lead to an increase in asset growth followed by increased retained earnings, and ultimately will greatly reduce the company's reliance on external funding sources. This suggests that industry structure has important implications on the company's debt ratio. The company's capital structure is influenced by competition among companies within an industry. The relationship of the debt ratio to the firm's investment will be significant as the industry becomes more concentrated. All this is done only to increase the value of the company.

The eighth hypothesis test, firm size has positive influence on the Investment Opportunity Set based Industrial Growth obtains empirical support to the t value at 3.96. The implication of this research is that manufacturing firm at Indonesia Stock Exchange has a positive influence on the

size of investment because large firm tend to have volatile earnings and lower net cash flows (Fama and French 2000). This is consistently with the studies conducted by Ameer (2014); Sadath and Acharya (2015). The results of this study suggest that large companies tend to dominate market positions in the industry, so often large companies have more competitive advantage in exploring their investment opportunities, in other words it can be concluded that growing companies are significantly larger companies because large companies are considered more have access to capital markets making it easier to obtain additional funds which can then increase profitability.

The ninth hypothesis test Investment Opportunity Set based Industrial Growth mediating Firm Size influence of firm value. The Sobel test indicates that the mediating role of investment opportunities based on industrial growth of the firm size does not influence on the firm because p-value is showing .534 greater than .05. This means that the mediating role of industrial growth based investment opportunity is not able to provide additional of total firm influence on firm value. Thus, the investment opportunity based on industry growth has not been proven mediating the influence of firm size on firm value. Suggestions from the results of this study is the manager must increase the total assets owned by the company, because companies with large yan have a high desire to invest, but it must also be considered the investment desire should adhere to common rules (common factors), capable of providing a signal of profit in the future. The significance of this study provides recommendations on the importance of the company to pay attention to the size and total assets it holds as a form of corporate responsibility to the market. By knowing the optimal total assets of the company, the company's managers can make investors (shareholders and creditors) as part of the company's empowerment guidelines to place their equity in companies with favorable debt and equity balances to support their investments.

The tenth hypothesis tests that Investment Opportunity Set based Industrial Growth mediating the influence of profitability to enhance firm value. The Sobel test indicates that the direct influence on the profitability of the firm value influence the firm value because it shows the p-value at .0094 which is less than .05. This means that the mediating role of industrial growth based investment opportunity can add to the total profitability influence of (ROA) on firm value. Thus, the investment opportunity based on industrial growth is proven mediating the influence between profitability (ROA) to the firm value (TOBINSQ), so this hypothesis is accepted. This implies that any increase in the firm profitability is expected to increase the firm value. But the increased of firm value will be able to achieve its full potential if the use of profitability for the investment is made by taking into account the sales dynamics in the industry. Suggestions that can be given is the company must be right in managing the profitability that will be used as a source of funding for investment. This study provides an understanding that managers of public companies should expand and invest companies in real assets and share investment, although not increase the value of the company. Managers in companies with large profitability tend to overinvest. Firms with stable profitability tend to adopt investment projects with a positive net present value, but often this leads to large size of the company but does not increase its value. The implications for investors is that companies with these conditions tend to have high profitability, this means investment projects undertaken by high-risk companies. The company should offer higher expected returns compared to less risky investments.

The eleventh hypothesis tests, Investment Opportunity, Set based Industrial Growth mediating the influence of leverage on the firm value. The Sobel test indicates that leverage does not have direct influence on firm value because its p-value shows .270, which greater than .05. This means that

the mediating role of industrial growth based on investment opportunity is not able to add to the total leverage influence on the firm value. Thus, the investment opportunity based on industrial growth has not been proven mediating between the influences of Leverage (DAR) on the firm value, so there is no reason to accept the eleventh hypothesis on this study. This finding has implications for managers to pay attention to a hierarchy in leverage use to finance their business. We suggest that managers should use external (debt) resources in addition to internal funds (equity) in their capital structure to achieve high efficiency in terms of cost and technology than their competitors, to be able to easily grab larger market share by lowering prices and gain economic benefits.

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