Mediation Model Investment Opportunity Set on Manufacturing Companies in Indonesia: Partial Least Square (PLS) Approach

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Abstract

The purpose of the study was to test and analyze the influence of multinationality, size, and profitability as company advantages, and leverage and systematic risk as company limitations on the change in investment opportunity set with its appropriate proxy and influence on company financing. The sample of the study are manufacture firms listed on the Indonesian Stock Exchange that distributed successively in 2010 – 2013. Sample size consists of total is 435 firms Data analysis was conducted in two ways: a) Confirmatory Factor Analysis (CFA) to find appropriate proxies; and b) Partially Least Square (PLS). ***Results****: company advantages were proven to have a positive effect on Investment Opportunity Set (IOS). Company limitations were not proven to have a negative effect on Investment Opportunity Set (IOS). Investment Opportunity Set was proven to have a positive effect on corporate financing policies at 10% significance level. Company advantages were proven to have a negative effect on corporate financing policies. Company limitations were proven to have a negative effect on corporate financing policies. IOS was proven to mediate the influence of company advantages on corporate financing policies at 10% significance level. IOS was proven to mediate the influence of company limitations on corporate financing policies. Company limitations have no significant influence on investment opportunity set. This is because companies in Indonesia have yet considered the leverage and systematic risk in determining the directions of corporate investment policies to grow and develop as well as in determining their financing policies.*

Keywords : *company advantage, company limitations, Investment Opportunity Set, financing policy*

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1. Introduction

The 2008 financial crisis, the presence of free trade system in 2015, and political changes characterize the time course of Indonesia Stock Exchange and strengthen further the role of stock exchanges in Indonesia's economy. Stock exchange as one of financial asset markets in Indonesia constitutes an important aspect for national economic growth and financial development. The capital market is companies obtain funds from investors. The development of a company is highly dependent on the capital invested by the investor. Companies around the world must take great care of their policy implementation. Company policies are influenced by the objectives of a

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company in improving its Investment Opportunity Set (IOS). Factors which lead to companies' failure in their investment include: paying less attention to company advantages and limitations (Al Najjar & Belkaoui, 2001), the increasingly fierce competition, and government policies that are less favorable for the growth of companies and industries. Investment opportunities play a critical role in the theory of corporate finance. Assets in place and investment opportunities combined affect the capital structure (Myers, 1977; Smith and Watts, 1992; Hartono, 1999; Adam & Goyal, 2007; Ponnu , 2008), dividend policy (Smith & Watts, 1992; Belkaoui & Picur, 2001; Al Najjar & Belkaoui, 2001; Jones, 2001; Mahadwarta & Jogiyanto, 2002; Hikmah, 2004&2008; Connor, 2010; Subramaniam & Shaiban, 2011; Subramaniam et al., 2011;), financing policy (Gaver & Gaver, 1993; Smith & Watts, 1992; Gul et al., 2000; Barclay et al., 2001; Jones, 2001; Kallapur & Trombley, 1999; Hikmah, 2004 & 2008; Ratnawati, 2007; Iturriaga, 2008), compensation (Smith & Watts, 1992; Gaver & Gaver, 1993; Hikmah, 2004), accounting policy (Skinner, 1993; Becker-Blease & Donna, 2006), disclosure (Cahan and Hossain, 1996; Hossain & Cahan, 2000; Akhtaruddin. & Hossain, 2008), leasing policy (Sami, et al., 1999), stock price (Crutchley & Hansen, 1989; Belkaoui & Picur, 2001), Corporate Governance (Sun et al., 2009; Rosdini, 2010; Okpara, 2010), cash Flow (Hovakimian & Hovakimian, 2009; Bertoni et al., 2010), Earning Management (Chen et al., 2010), Performance (Muniandy et al., 2010; leverage policy (Khanqah et al., 2013), and general model of growth opportunities (AlNajjar & Belkaoui, 2001).

According to Gaver & Gaver (1993), investment options or growth options for a company are inherently unobservable; thereby IOS needs a proxy variable (Hartono, 1999). The more proxy variables for IOS, the more accurate they will be for determining a company's group or characteristics and, therefore, reducing the mistakes in classifying the growth rate for a company (Sami et al., 1999; Gaver & Gaver 1993).

Baker (1993) notes that continual improvement and development of the existing proxies are necessary because all proxies, especially those employed individually, have measurement errors (Smith & Watts, 1992; Gaver & Gaver 1993). Purwanto (2001), states that consideration is necessary for data simplification by combining the observed variables into a composite variable. The combining of observed variables into a composite variable helps the researchers understands and describes the phenomenon under investigation as well as analyze them further in regression analysis (Purwanto, 2001).

A number of studies on IOS conducted in Indonesia are, among others: Subekti (2000) that adds implications of IOS for stock return; Fijrianti (2000) studies the relationship between the proxies of IOS and the realized growth using individual proxies, factor scores, and instrumental variables; Prasetyo (2000) studies the relationship between IOS and beta and market reaction; Norpratiwi (2001) studies the correlation between IOS and stock return; Saputro (2003) studies the confirmatory factor analysis of a composite proxy for IOS and the relationship with growth realization; Agnes (2012) studies the effect of financial ratios on investment opportunity set in manufacturing company life cycle stages; Ayuningtias, (2013) studies the influence of profitability on firm value: dividend policy and investment opportunity as intervening variables.

This research was motivated economic growth in Indonesia is declining due to gobal crisis and globalization. In times of crisis, the debt policy of the company resulting in increased risk. This affected the company is unable to pay its debts due to the exchange

rate is lower than the dollar led to increased corporate debt. Researchers are interested in developing research Al Najjar & Belkaoui on title Empirical Validation of a General Model of Growth Opportunities, because study attempts to elaborate and analyze the influence of multinationality, size, and profitability (Al Najjar and Belkaoui, 2001) as variable company advantages, and leverage and systematic risk (Al Najjar and Belkaoui, 2001) as variable company limitations on the change in investment opportunity set with its appropriate proxy and influence on company funding arrangements. Researchers interested in using these variables because of the crisis in Indonesia caused by the company does not consider the factors of the advantages and limitations of its investment decision (IOS) and the financing decision. Research aims to examine the characteristics of the company's advantages and limitations of IOS and the funding policy. Researchers using IOS as a mediating variable because In the second situation (mediation) third variable gives a clearer interpretation of the relationship between the two variables. A clearer interpretation can be obtained by explaining the causal processes between the three variables, or named, mediational hypothesis, "A mediating variable is one the which specifies how (or the mechanism by roomates) a given effect Occurs between an independent variable (IV) and a dependent variable (DV)" (MacKinnon, 2008).

2. Literature Review

2.1. Agency Theory

Jensen & Meckling (1976) propose agency theory explaining that the interests of management and shareholders are frequently contradictory, so that it can lead to conflict between the two. This is so because managers tend to prioritize their personal interests. Shareholders do not like the manager's personal interest, because it will add to the cost for the company that, ultimately, reduces the received benefits. The conflict between managers and shareholders can be minimized by an oversight mechanism that mediates the conflicting interests. However, such a mechanism will give rise to the so-called agency cost. The latter can be the agency cost of equity. The dividend serves as a bonding and monitoring tool for management (Mahadwarta & Jogiyanto, 2002). Dividend payment will provide shareholders with additional return, in addition to capital gain. The dividend also provides shareholders with certainty in their revenue and, at the same time, minimizes agency cost of equity. This is so because perquisite action, such as managers' travel and first-class accommodation expenses taken from the company's cash flow when the monitoring expenses have been reduced as the shareholders believed that management policies would benefit them (Crutchley & Hansen, 1989). Furthermore, companies that go public are those that have been strictly screened by auditors and Indonesia Capital Market Supervisory Agency (BAPEPAM) as well as public investors outside companies who assisted in supervising the management in support of shareholders interest outside the management.

Eisenhardt (1989) argues that agency theory draws on three assumptions on human characters: (1) that human being has a concern for his or her own interest (self-interest); (2) that human being has a limited perception on what the future will bring (bounded rationality); and (3) that human behavior demonstrates aversion to risk (risk-aversion).

2.2. Financing Policy

Debt is another mechanism that can be used to reduce or control agency conflict. Jensen (1976) argues that by being indebted, company must make periodic payments of interest and principal. Empirically, studies examining different factors that influence the debt policies have already been conducted, such as those by Wahidahwati (2002), Listyani (2003), Murni and Andriana (2007), Indahningrum and Handayani (2009), and Yeniatie and Destriana (2010). The results of their studies, however, have been inconsistent. While Wahidahwati (2002), Listyani (2003), Faisal (2004), Masdupi (2005), and Junaidi (2006) found that managerial ownership have a significant negative effect on debt policy, Murni and Andriana (2007), Indahningrum and Handayani (2009), Yeniatie and Destriana (2010), and Larasati (2011) found that managerial ownership have no significant effect on corporate debt policy.

Wahidahwati (2002), Listyani (2003), Masdupi (2005), Junaidi (2006), and Yeniatie and Destriana (2010) found that institutional ownership has a negative effect on debt policy. The results of these studies differ from those conducted by Murni and Andriana (2007), and Indahningrum and Handayani (2009) that indicate that institutional ownership has a positive and significant effect on debt policy. Murni and Andriana (2007) and Larasati (2011) argue that dividend policy has significant negative effect on debt policy. On the contrary, the results of a study conducted by Masdupi (2005) indicate that dividend policy has significant positive effect on debt policy. Chen and Steiner (1999) found that managerial ownership is negatively correlated with debt policy. This is because of substitution between the two.

2.3. Investment Opportunity Set

IOS (Investment Opportunity Set) is the universe of alternatives as to future investments available to corporation (Hartono, 1999). According to Myers (1977), IOS is a combination of owned assets and future choices of investments that have a positive NPV. Gaver and Gaver (1991), investment opportunity set represents a firms' value the extent of which depends on the expenditure determined by the management in the future where choices of investment are expected to generate higher returns. Therefore, for companies the growth is essentially the available opportunity for profitable investment (Chung & Charoenwong, 1991).

Individual ratios to be used in this study include: (1) market to book value of assets (MVABVA) for the reason that the prospect for company's growth is reflected in stock price (Kallapur & Trombley, 1999), and that market reacts more positively to companies that grow higher than their book value (Graver & Graver, 1993; Hartono 1999); (2) market to book value of equity (MVEBVE) for the reason that MVEBVE indicates that the future market value of a company's return on investment will be higher than the expected return on equity, as noted by Collins & Kothari (1998) that the differences between market value and equity value is an indicator of future growth opportunity; (3) price to earning (PER), for the reason that equity value is the number of capitalized profits generated from the managed asset plus Net Present Value (NPV) of future choices of investment, therefore the higher the PER, the smaller the equity value attributed to the profit generated from the assets relative to grow opportunity; (4) capital expenditure to book value of assets (CAPBVA); and (5) capital expenditure to market value of assets (CAPMVA), for the reason that the growing companies have a higher level of investment activities (Kallapur & Trombley, 1999).

2.4. Company Advantages And Limitations

A study by Al Najjar and Belkaoui (2001) is interesting as it presents a general model of growth opportunities in a relationship between company advantages and limitations to IOS. Advantage of the company is presented in several variables including multinality, size and profitability, while limited company in terms of leverage and systematic risk. The value of assets in place together with choices of future investment or growth opportunities in the forms of company advantages and limitations will determine a company's growth potential growth.

Becoming a multinational company will bring competitive advantages in terms of mastery of technology, information, management, and market share. Company size is one of the factors that indicate advantages in terms of a relatively larger amount of assets and, thereby, increasing the number of investment choices that make it easier to compete and to corner the market. Corporate profitability represented in the form of a company with a relatively larger amount of profits makes it possible to keep ahead of the competition.

A company limitation of leverage constitutes a corporate constraint as it is related to a company's future growth opportunities. Empirical researches demonstrate that leverage is negatively related to a company's growth opportunities (Gaver & Gaver, 1993; Smith & Watts, 1992; Barclay et al., 2001; Jones, 2001).

Another limitation is a systematic risk to illustrate the beta of an asset. While several researches indicate disagreement on the relationship between growth and systematic risk, the current study defines growth as an expansion yielded and a monopoly power, thereby negatively correlated as indicated in Beaver et al., 1970; Pettit & Westerfield, 1972; Breen & Lerner, 1973; Rosenberg and McKibden, 1973; Thompson 1976 and Eskew 1979.

2.5. Contract Theory and Agency Theory and their Relationship with General Model of Growth Opportunity (Investment Opportunity Set)

Contract theory draws principally upon a major assumption that corporate policy-making is intended to optimize corporate value. Such argument becomes popular following the debate on the idea of positive accounting that the many differences in accounting procedures between companies are related to the behaviors of company management (Watts and Zimmerman, 1990). Differences in accounting procedures and policies are related to efficient contracting perspective and opportunistic management perspective. From the contracting efficiency perspective, managers will particularly chose accounting method that will minimize agency cost, thus will maximize company value.

Investment Opportunity Set (IOS) is the availability of future investment choices for companies (Hartono, 1999). IOS, according to Myers (1977) is a combination of owned assets and future investment choices with a positive NPV. A rational and testable growth model can be developed by combining both company advantages and limitations. In general, growth opportunity measured by Investment Opportunity Set is influenced by multinationality, size, and profitability (Al Najjar and Belkaoui, 2001) as company advantages. Leverage and systematic risk (Al Najjar and Belkaoui, 2001) as company limitations.

2.5.1. The Effect of Corporate Multinationalism on Investment Opportunity Set (IOS)

Definition of a multinational firm as a collection of valuable options and arbitrage benefits might have a positive impact on company's growth opportunity as measured by IOS, therefore we formulate hypothesis 1 as follows:

H1: Corporate multinationality has a positive effect on Investment Opportunity Set (IOS)

2.5.2. The Effect of Firm Size on Investment Opportunity Set (IOS)

Company size serves as a scale to classify a company into class sizes. Basically, a company size is divided into three categories: large, medium, and small. In this study, company size is measured by the logarithm of total assets. Therefore, we formulate the second hypothesis as follows:

H2: Company size has a positive effect on Investment Opportunity Set (IOS).

2.5.3. The Effect of Company Profitability on Investment Opportunity Set (IOS)

Profitability is achieved through corporate policies and decisions. A profitability ratio provides valuable indicators for effective conduct of business activities. Profitability ratio in this study is measured by the return on assets (ROA), where the higher the ROA the greater the opportunity for the company to grow (Brigham, 2010). Thus, the third hypothesis is formulated as follows:

H3: Profitability has a positive effect on Investment Opportunity Set (IOS).

2.5.4. The Effect of Financial Leverage on Investment Opportunity Set (IOS)

Leverage indicates how much company assets are obtained or financed by debt. Siallagan and Machfoedz (2006) notes that leverage may reduce conflict of interest between the managers and bondholders. In this study, leverage is calculated by dividing the total liabilities by total assets. Therefore, the fourth hypothesis is formulated as follows:

H4: Company financial leverage has a negative impact on Investment Opportunity Set (IOS).

2.5.5. The Effect of Company Systematic Risk on Investment Opportunity Set (IOS)

The influence of company's growth opportunity on systematic risk depends on the definition of growth itself. Growth, defined as expansion, is negatively correlated with systematic risk (Beaver, et al, 1970; Petit & Westerfield, 1972; Breen & Lerner, 1973; Rosenberg & Mc Kibden, 1973; Thomson, 1976; Eskew, 1979). Growth that is defined as the monopoly power in market output give rise to stronger economic power and also resulted in negative relationship between

growth and systematic risk. Finally, growth that is defined as real option indicates a positively correlation with systematic risk (Christie, 1989; Chung & Charaenwong, 1991). Booth (1981) & Conine (1983) argues that the relationship between growth and beta can be positive or negative, depending on the relative value of the parameter employed in the model. Therefore, the fifth hypothesis is formulated as follows:

H5: Company systematic risk has a negative effect on Investment Opportunity Set (IOS).

2.6. The Influence of Investment Opportunity Set (IOS) on Financing Policy

Chen and Steiner (1999) demonstrate that under high risk condition, managers will choose high risk project in order to achieve high returns. Risk reduction is conducted using debt financing from lenders. Gaver & Gaver (1993) found evidence that high growth companies tend to have lower debt to equity ratio. Smith and Watts (1992) found evidence that companies with greater growth opportunities have lower debt to equity ratio in their capital structure policies their equity financing tends to reduce agency related problems potentially associated with the existence of risky debt in their capital structure. Smith and Watts (1992) also found evidence that the growing companies tend to adopt lower dividend to minimize agency related problems associated with the freedom of company's cash flow.

A leverage ratio is an indicator to measure the ratio of the fund provided by company owners to the fund provided by the creditors. Leverage ratio indicates the debt to equity ratio in corporate financing. Additional debt increases a company's business risk but, at the same time, boosts the expected returns. Leverage represents the use of debt as a source of corporate finance (Brigham, 2010). Companies with high leverage ratio face high risk of loss. On the contrary, companies with low leverage ratio face high risk of loss, but also have smaller opportunity to multiply the debt and equity returns. Leverage indicates the amount of corporate assets obtained or financed by debt. Siallagan and Machfoedz (2006) notes that leverage can minimize the conflict of interest between the manager and bondholders. In this study, leverage is measured by dividing total debt by total assets.

Debt ratio, or commonly referred to as leverage ratio, is used to measure the level of leverage to total equity owned by companies. The ratio is measured by comparing the total debt to total equity. Debt ratio has an undesirable effect on corporate performance as the higher level of debt means greater dividend that reduces the profits. On the other hand, low level of debt indicates better performance as it causes an increasingly higher level of returns. Company limitations in the form of leverage are negatively correlated to Investment Opportunity Set (IOS). Competition for corporate investment opportunity set is determined by the company's leverage, where greater growth opportunities tend to have lower market leverage (Jones, 2001). Thus, we formulate the following hypotheses:

H6: Investment Opportunity Set (IOS) has a positive effect on corporate financing policies.

H7: Corporate multinationalism has a negative effect on corporate financing policies.

H8: Company size has a negative effect on corporate financing policies.

H9: Company's Profitability has a negative effect on corporate financing policies..

H10: Company's leverage has a positive effect on corporate financing policies.

H11: Company's systematic risk has a positive effect on corporate financing policies.

H12: IOS mediates the effect of company advantages (multinasionalism, size, profitability) on corporate financing policies.

H13: IOS mediates the effect of company limitations (leverage and sytematic risk) on corporate financing policies.

3. Method

Objects in this study are all publicly manufacturing companies listed on the Indonesian Stock Exchange (BEI) in 2010 until 2017. The companies declared eligible because their compliance with the criteria for purposive sampling amounted to 87 companies per year. Operational definitions of the variables in this study are as follow:

1. **Advantages and Limitations**

   AlNajjar & Belkaoui (2001) introduce a general model of growth opportunities in view of the effect of the model of growth opportunities on IOS. The model includes company advantages (multinationality, size and profitability) and limitations (leverage and systematic risk) which are among the characteristic of a company.

   a. *Multinationality*

   A multinational company has advantages in a competition and benefits in setting up the company's cash flow (AlNajjar & Belkaoui, 2001; Belkaoui & Picur, 2001). Multinationality = foreign sales/total sales (FSTS); foreign profit/total profit (FPTP); foreign assets / total assets (FATA).

   b. *Size*

   Large size reflects the operational scale of a company and its competitive advantages over its competitors because of its relatively large assets. Size is measured by the logarithm of total assets.

   c. *Profitability*

   Profitability assumes that a company with a large amount of profits will have greater opportunities to compete with its competitors.

   Profitability is measured by the return on assets (ROA) = Earning After Tax/Total Assets or net income/total asset.

   d. *Leverage*

   Leverage ratio indicates the debt to equity ratio in a company's financing. It indicates the amount of company assets generated or financed by debt. In this study, leverage is measured by dividing the total debt by total assets or long term debt/total assets for firm *j* in year *t*.

   e. *Systematic Risk*

   Sistematic risk is measured using beta market, or more precisely beta correction, with the following equation:

   $E(R_i) - E(R_F) = E[(R_m) - E(R_F)]\beta_i$

   Where,

   $E(R_F)$ = risk free rate; $E(R_m)$ = expected return on a market factor; $\beta_i = \text{cov}(R_i, R_m)/\text{var}(R_m)$

2. Investment Opportunity Set (IOS)

IOS represents a decision to invest in a combination of owned assets and future choices of investment where it would affect a firm value. Proxies of IOS are varied. Measurement of IOS using alternative proxies:

Table 1. IOS proxy variable

No	Proxy IOS	Measure	Researcher
1	Market to book value of equity (MBVE)	MBVE=(number of shares outstanding X stock's closing price): total equity	Chung & Charoenwong (1991), Smith & Watts (1992), Skinner (1993), Gaver & Gaver (1993), Cahan & Hossain (1995), Kallapur & Trombley (1999), Sami, et al. (1999), Gul (1999), Adam & Goyal (2000 & 2003), Subekti & kusuma (1999), Subekti (2001), AI Najjar & Belkaoui (2001), Abbott (2001), Jones & Sarma (2001), Mira, et al. (2002), Collins & Kothari (1989), Hartono (1999), Fijrianti (2000), and Prasetyo (2000)
2	Book to market value of assets (MBVA)	MBVA = (total assets – total equity + (number of shares outstanding X stock's closing price) : total assets	Chung & Charoenwong (1991), Smith & Watts, (1992), Skinner (1993), Gaver & Gaver (1993), Cahan & Hossain (1995), Kallapur & Trombley (1999), Sami, et al. (1999), Gul (1999), Adam & Goyal (2003), Abbott (2001), Jones & Sarma (2001), Subekti dan kusuma (1999), Subekti (2001), AINajjar & Belkaoui (2001), Mira, et al. (2002), Fijrianti (2000), and Mahfud (2004)
3	Earnings to price ratios (PER)	PER = Stock's closing price: (profit after tax/number of share outstanding) or stock's closing price/earnings per share	Chung & Charoenwong (1991), Smith & Watts (1992), Skinner (1993), Gaver & Gaver (1993), Cahan & Hossain (1995), Kallapur & Trombley (1999), Sami, et al. (1999), Gul (1999), Adam & Goyal (2000 & 2003), Jonest & Sarma (2001), Subekti & Kusuma (1999), Subekti (2001), AINajjar & Belkaoui (2001), Prasetyo (2000), Hartono (1999), Fijrianti (2000), and Mahfud (2004)
4	Ratio of capital expenditure to book value of assets (CEBVA)	CEBVA = (book value of fixed assets $_t$ – book value of fixed assets $_{t-1}$): [Total Asset]	Jones & Sharma (2001), and Fijrianti (2000)
5	Rasio capital expenditure to market of assets (CEMVA)	CEMVA = (book value of fixed assets $_t$ – book value of fixed assets $_{t-1}$) : (total assets – total equity + (number of shares outstanding x stock's closing price)	Jones & Sharma (2001), Fijrianti (2000), Prasetyo (2000), Subekti & Kusuma (1999), and Subekti (2001)

3. Financing Policy

Debt is another mechanism to minimize or control agency related conflicts. Financing policies are measured by Debt to Equity Ratio (DER) = Liability/Shareholder's Equity or total long-term debt/total equity.

Data Analysis Techniques

Data analysis technique and model employed in this study is Structural Equation Model (Mediating SEM). SEM basically consists of Measurement Model and Structural Model. SEM has the advantages in analyzing multivariate data simultaneously. Thus, using SEM, research model will undergo a simultaneous statistical test. Structural Equation Model can be completed using several statistical programs, such as Lisrel,

AMOS, or PLS. For this study, the author prefers PLS on consideration that PLS is capable of analyzing variables with one indicator or two.

Partial Least Square is a powerful analysis method as it does not assume that the data should be measured using certain scale for a small sample. PLS also serves to confirm a theory. For prediction, PLS seems to be more appropriate. PLS approach assumes that all measures of variance are variants worth describing. Since the approach to estimate latent variables is considered as a linear combination of indicators, it avoids indeterminacy and provides precise definition (Score World 1982 in Ghozali, 2008). PLS provides a general model that includes canonical correlation technique, redundancy analysis, multiple regression, multivariate analysis of variance (MANOVA) and principle component analysis. Model identification in PLS poses no difficulty for recursive model, and it does not assume certain distribution for a variable scale (Ferdinand, 2005).

4. Result

4.1. Factor Analysis of IOS

Steps in factor analysis:
1. *KMO and Bartlett's Test of Sphericity*
   Based on the factor analysis in Table 2, the value of KMO and Bartlett's test is 0.814 at a significance level of 0.000. Therefore, as the value is greater than 0.5 and the significance level is well below 0.05 (0.000 < 0.05), the existing variables and samples could be further analyzed. The image correlation indicates that all variables have the value greater than 0.5, thereby could be further analyzed. The factor analysis indicates the following results:

Table 2. Factor Analysis Results

Factor Analysis	Value
KMO MSA	0,414
BTS Chi Square	601,468
df	10
Sig	0,000
Variables	MSA
MVEBVE	0,450
MVABVA	0,451
PER	0,230
CAPBVA	0,051
CAPMVA	0,379

Source: Processed Secondary Data, 2018

2. *Communalities*
   The communalities measure the percentage of variable's variance explicated by factors. The extreme values of communalities range from 0.0 to 1.0. While the estimated 0.0 means that a variable is not correlated to other variables, the estimated 1.0 means that a variable's variance is completely caused by common factors.

Table 3. Communalities

	Initial	Extraction
MVEBVE	1.000	.967
MVABVA	1.000	.975
PER	1.000	.778
CAPBVA	1.000	.741
CAPMVA	1.000	.553

Extraction Method: Principal Component

Source: Processed secondary data, 2015

Communality for activities ranges from 0.553 to 0.975. The result indicates that all of the variables have sufficiently high communality and, therefore, they have communality with other variables in one group.

3. *Extraction*

The next step is to calculate the factors. The factors are extracted using the principal component analysis. The idea of this step is to determine what factors to use. Criterion for factor extraction used in this study is Latent Root Criterion: the factors extracted are those with Eigenvalue greater than 1.

Table 4. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.947	38.939	38.939	1.947	38.939	38.939
2	1.056	21.119	60.058	1.056	21.119	60.058
3	1.011	20.223	80.281	1.011	20.223	80.281
4	.936	18.725	99.006			
5	4.970E-02	.994	100.000			

Extraction Method: Principal Component Analysis.

Using this criterion, factor extraction generates 3 factors to use. Factor 1 has eigenvalue of 1.947 and variance of 38.939%; factor 2 has eigenvalue of 1.056 and variance of 21.119%; and factor 3 has eigenvalue of 1.011 and variance of 20.223%. Thus, all of these factors have variance of 80.281% of total variance.

4. *Rotation*
The clustering of variables in factors that occur in factor matrix can be interpreted directly as there might be variables with almost equal factor loadings in 2 factors, thereby difficult to determine the occurrence of variable clustering in factors. To interpret the factors more reasonably, factor rotation is performed to obtain a theoretically and practically more significant factor solution. Factor rotations in most cases will improve the interpretation by reducing several dualisms frequently come with the initial solution for the factors that have not been rotated (Hair et al, 1998). The method of factor rotation adopted in this study is Varimax, for the reason that the method maximizes the variance.

Table 5. Factor Rotation Analysis Results

Rotated Component Matrix[a]

	Component		
	1	2	3
MVEBVE	.982	-.047	-.005
MVABVA	.984	.077	.020
PER	-.014	.093	.877
CAPBVA	.064	.835	.200
CAPMVA	-.066	.576	-.466

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 4 iterations.

The stock test result constitutes factor 1 with a correlation of 0.982 and 0.984; items of assets constitute factor 2 with a correlation of 0.835 and 0.576; and PER constitutes factor 3 with a correlation of 0.877. The results indicate that those 5 variables can be reduced to 3 factors. Thus, the stock-related factors amount to 38.939%, asset-related factors amount to 21.119%, and PER-related factor amount to 20.233%. This demonstrates that the three factors represent the IOS by 80.281%.

4.2.   Analysis of Intervariable Effects
1. Validity Test
    Validity of model is evaluated by convergent and discriminant validities as the indicators.
a. Discriminant validity index
    Discriminant validity index is measured by cross loading and comparing square root of AVE and Latent variable correlations.

Table 6. Cross Loading

	IOS	Policy	Limitations	Advantages
CAPBVA	**0.757**	0.011	-0.067	0.396
CAPMVA	0.020	0.010	-0.008	-0.040
DER	-0.130	**1.000**	0.153	-0.430
LEVERAGE	0.041	0.144	0.276	-0.131
MULTINATIONALITY	0.107	-0.130	-0.158	0.415
MVABVA	**0.899**	-0.139	-0.087	0.632
MVEBVE	**0.865**	-0.163	-0.256	0.573
PER	**0.242**	-0.004	-0.014	0.090
PROFITABILITY / ROA	0.480	-0.528	-0.332	**0.842**
SIZE	0.511	0.047	0.047	**0.515**
SYSTEMATIC RISK	-0.186	0.115	**0.954**	-0.247

Source : Processed secondary data, 2018

    Based on the cross-loading values in Table 6, we can see that the loading item of each construct has the values greater than those of indicator loadings of other constructs. This indicates that the items have good discriminant validity.
    The discriminant validity index seen from the square root of AVE and latent variable correlations is presented as follows:

Table 7. Square root of AVE correlation

	IOS	Policy	Limitations	Advantages
IOS	**0.661**			
Policy	-0.130	**1.000**		
Limitations	-0.166	0.154	**0.703**	
Advantages	0.647	-0.429	-0.276	**0.618**

Based on Table 7, the value of square root of AVE is higher than the correlations between other variables, except for advantages that have a bit smaller value of square root of AVE. However, it can be said that the variables in this study still have good discriminant validity.

b. *Convergent validity*

Convergent validity of a measurement model with reflexive indicator is determined based on the correlation between item scores and construct scores calculated using PLS. Convergent validity index is measured by AVE, communality and loading factors. The AVE index and communality can be seen in the following table:

Table 8. AVE and communality

	AVE	Composite Reliability	R Square	Cronbachs Alpha	Communality	Redundancy
IOS	0.437	0.734	0.419	0.580	0.437	-0.002
Policy	1.000	1.000	0.224	1.000	1.000	-0.131
Limitations	0.494	0.599		-0.047	0.494	
Advantages	0.382	0.629		0.303	0.382	

Source: Processed secondary data, 2018

From Table 8, we can see that the values of AVE and communality for IOS, limitations and advantages are slightly below 0.5. Thus, the variables' convergent validity value is not as good as that of policy that has high convergent validity value because it is comprised of only one indicator.

Table 9. Factor Loadings

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	Sig.
CAPBVA <- IOS	0.757	0.706	0.170	0.170	4.453	0.000
CAPMVA <- IOS	0.020	0.024	0.143	0.143	0.142	0.887
DER <- Policy	1.000	1.000	0.000			1.000
LEVERAGE <- Limitations	0.276	0.344	0.485	0.485	0.570	0.571
MULTINATIONALITY <- Advantages	0.415	0.418	0.154	0.154	2.696	0.009
MVABVA <- IOS	0.899	0.888	0.109	0.109	8.236	0.000
MVEBVE <- IOS	0.865	0.869	0.079	0.079	10.988	0.000
PER <- IOS	0.242	0.271	0.116	0.116	2.082	0.042
PROFITABILITY / ROA <- Advantages	0.842	0.847	0.067	0.067	12.506	0.000
SIZE <- Advantages	0.515	0.469	0.207	0.207	2.493	0.015
SYSTEMATIC RISK <- Limitations	0.954	0.661	0.479	0.479	1.992	0.051

Source: Processed secondary data, 2018

Table 10. Factor Loadings

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)	Sig.
CAPBVA <- IOS	0.752	0.710	0.147	0.147	5.127	0.000
DER <- Policy	1.000	1.000	0.000			1.000
LEVERAGE <- Limitations	0.288	0.397	0.479	0.479	0.602	0.549
MULTINATIONALITY <- Advantages	0.413	0.419	0.164	0.164	2.513	0.015
MVABVA <- IOS	0.902	0.902	0.047	0.047	19.293	0.000
MVEBVE <- IOS	0.865	0.877	0.029	0.029	29.442	0.000
PER <- IOS	0.241	0.294	0.111	0.111	2.178	0.033
PROFITABILITY / ROA <- Advantages	0.841	0.840	0.071	0.071	11.926	0.000
SIZE <- Advantages	0.518	0.475	0.202	0.202	2.561	0.013
SYSTEMATIC RISK <- Limitations	0.951	0.596	0.527	0.527	1.803	0.076

Source: Processed secondary data, 2018

From Table 10 we can see that there remain several items with outer loadings of < 0.7; therefore significance test is necessary. Significance test for outer loadings indicates that all leverages have a high level of significance; however, considering that all of these leverages play important role in the research model, that is to test hypothesis 4, they will remain in the research model.

2. Reliability Test

The results of cronbach's alpha realiability and composite reliability tests can be seen in Table 11.

**Table 11.** Cronbach's alpha and composite reliability scores

	Composite Reliability	Cronbachs Alpha
IOS	0.808	0.691
Policy	1.000	1.000
Limitations	0.602	-0.047
Advantages	0.629	0.303

Source: Processed secondary data, 2018

From Table 11 we can see that the composite reliability score is greater than 0.6, which indicates that the variable should be considered reliable. The Cronbach's alpha values indicate that limitations and advantages scored low; therefore, these variables are categorized as less reliable.

3. Hypothesis Testing

Hypothesis formulation in this study is performed by analyzing the required data correlation and the correlation between exogenous and endogenous variables by Partial Least Square (PLS). The results of the analysis are as follow.
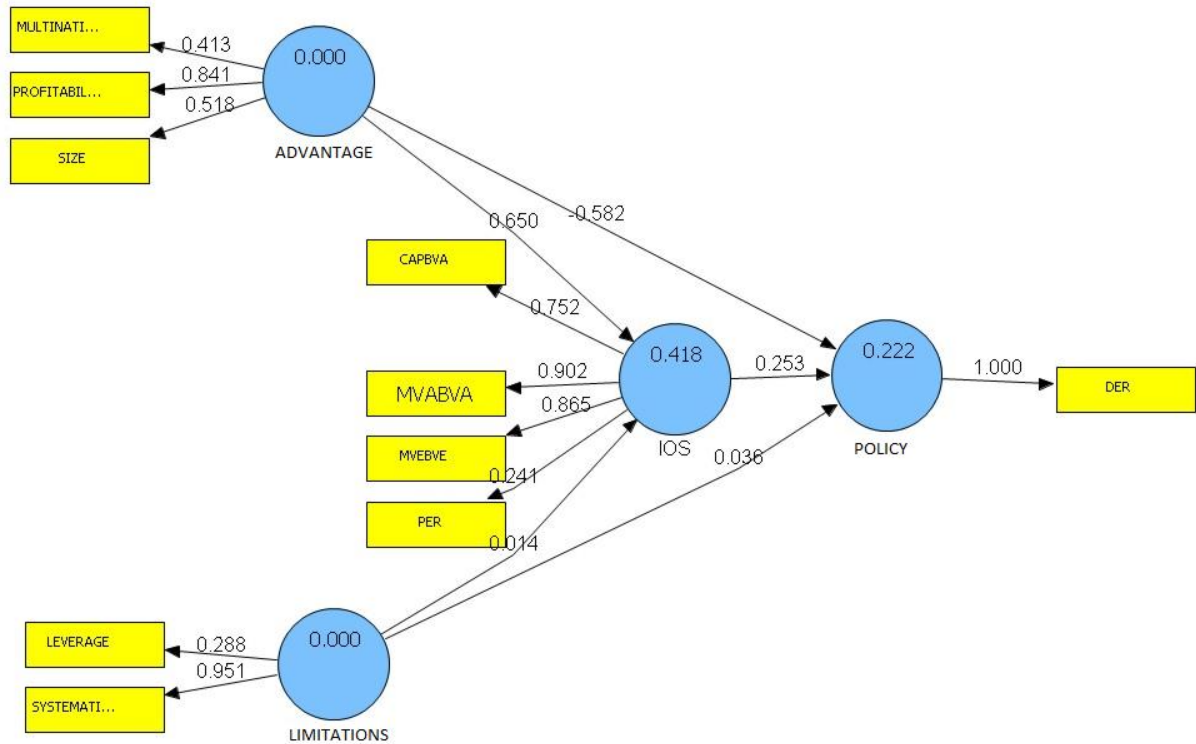
Source: Processed secondary data, 2018

Figure 1. Path Coefficients

Based on the values, the results can be summarized as follow:

a. The effect of corporate multinationality on Investment Opportunity Set (IOS) has a value of path coefficient of 0.268 at significance level of 0.014, which is lower than 0.05. Thus, the first hypothesis is supported.

b. The effect of firm size on Investment Opportunity Set (IOS) has a path coefficient value of 0.337 at 0.012 level of significance, which is lower than 0.05. Thus, the second hypothesis is supported.

c. The effect of corporate profitability on Investment Opportunity Set (IOS) has a path coefficient value of 0.547 at 0.000 level of significance, which is lower than 0.05. Thus, the third hypothesis is supported.

d. The influence of firm leverage on Investment Opportunity Set (IOS) has a path coefficient value of 0.004 at 0.913 level of significance, which is greater than 0.05. Thus, the fourth hypothesis is unsupported.

e. The effect of firm's systematic risk on Investment Opportunity Set (IOS) has a path coefficient value of 0.013 at 0.912 level of significance, which is greater than 0.05. Thus the fifth hypothesis is unsupported.

f. The effect of Investment Opportunity Set (IOS) on corporate financing policy has a path coefficient value of 0.253 at a significance level of 0.055, which is lower than 0.10. Thus, the sixth hypothesis is supported at 10% significance level.

g. The effect of firm's multinationality on corporate financing policies has a path coefficient value of -0.240 at 0.032 significance level, which is lower than 0.05. Thus, the seventh hypothesis is supported.

h. The effect of company size on corporate financing policies has a path coefficient value of -0.301 at 0.030 significance level, which is lower than 0.05. Thus, the eighth hypothesis is supported.

i. The effect of company profitability on corporate financing policies has a path coefficient value of -0.489 at 0.000 significance level, which is lower than 0.05. The ninth hypothesis is, thus, supported.

j. The effect of company leverage on corporate financing policies has a path coefficient value of 0.010 at 0.767 significance level, which is greater than 0.05. Thus, the tenth hypothesis is unsupported.

k. The effect of company systematic risk on corporate financing policies has a path coefficient value of 0.010 at 0.739 significance level, which is greater than 0.05. The eleventh hypothesis is, thus, unsupported.

l. The effect of company advantages (multinationality, size, profitability) on corporate financing policies has a path coefficient value of 0.164 at 0.057 significance level, which is lower than 0.05. Thus, the twelfth hypothesis is supported at 10% significance level.

m. The effect of company limitations (leverage and systematic risk) on corporate financing policies has a path coefficient value of 0.004 at 0.912 significance level, which is greater than 0.05. The thirteenth hypothesis is thus unsupported.

5. Discussion

Hypotheses 1, 2, and 3 indicate that corporate multinationality, size, and profitability have a positive and significance effect at %5 significance level on Investment Opportunity Set (IOS). The results of this study supported the existing theory and also the study conducted by ALNajjar and Belkaoui (2001) indicating a positive and significance result at 5% significance level. This study, however, not supported the study conducted by Pagalung (2003), the results of which indicating that only the company reputation that has significant influence on IOS.

The results indicate that company advantages (multinationality, size, profitability) were confirmed by the model employed in the study conducted by AlNajjar and Belkaoui (2001). Thus, multinationality, size and profitability can serve as indicators for the measurement of company advantages. However, such measurement of company advantages remain hotly debated in terms of its representativeness.

Hypotheses 4 and 5 indicate that leverage and systematic risk of company has a positive, yet not significant, effect on Investment Opportunity Set (IOS). The results of this study do not support the existing theory and also do not support the results of the study conducted by AlNajjar and Belkaoui (2001) that demonstrates negative and significant results at %5 significance level. The results of this study also do not support those of the study conducted by Pagalung (2003) that demonstrates significant results

at 1% and 5% significance level. However, Pagalung (2003) also demonstrates that leverage generates a positive correlation with IOS.

The results indicate that company limitations (leverage and systematic risk) were inconsistent with earlier studies (Gaver & Gaver, 1995; Smith & Watts, 1992; dan Gul & Kealey, 1999). This could possibly be due to the fact that Indonesia's economy has not fully recovered from the 2008 global financial crisis affecting almost all countries. Because the author used the data from 2009, the corporate financing structures were not similar to the companies not affected by the crisis. The results of this study become interesting for further studies to determine what factors that make such a condition differs and to determine whether or not such differences were caused by the differences in economic condition (while previous studies in the United States were conducted prior to the financial crisis using the data from 1987 to 1993, the current study was conducted in Indonesia using the data from 2009, or after the crisis). This is necessary for further exploration in future studies.

The sixth hypothesis stating that Investment Opportunity Set (IOS) has a positive influence on corporate financing policies is supported at 10% significance level. The results of this study are consistent and supported previous studies (Gaver & Gaver, 1993&1995; Smith & Watts, 1992; and Gul & Kealey, 1999; Hartono, 1999; Sami et al, 1999; Saputro 2003; Hikmah, 2004 & 2008 and Khanqah et al, 2013).

Hypotheses 7, 8, and 9, stating that corporate multinationality, size and profitability have a negative but significant effect at 5% significance level on financing policies. The results of this study supported those of studies conducted by Gaver & Gaver, 1993 & 1995; Smith & Watts, 1992, although their results do not specifically used corporate nationality as variable (as it is a novelty in this study). Gaver & Gaver and Smith & Watts, however, used those variables to determine their influence on company decision making in terms of financing policies.

Hypotheses 10 and 11 of this study indicate that leverage and systematic risk have a positive, insignificant effect on financing policies. Based on the existing theory, the results of this study do not support Brigham (2000) theory. They also do not support the results of the studies by Gaver & Gaver, 1993 & 1995; Smith & Watts, 1992 and AlNajjar & Belkaoui, 2001, although their results do not specifically indicated that leverage and systematic risk serve as the measures for company limitations (as this a novelty in this study).

Hypothesis 12 indicates that IOS is capable of mediating the influence of company advantages (multinationality, size, profitability) on corporate financing policies at 10% significance level. Fama and French (1998) found that investment stimulated by dividend policy and leverage generates positive information on the future of a company, thereby positively affects the company's value. According to Chung and Charoenwong (1991), differences in investment decision made by a company in efforts to stay ahead of its competitors attempting to enter its market, and the varied strategic alternatives of the company in effort to secure competitive advantages have made IOS varies between companies (Gaver & Gaver, 1993).

Hypothesis 13 indicates that IOS is incapable of mediating the influence of company limitations (leverage and systematic risk) on corporate financing policies. This is a novelty in this study as the IOS serves a mediating variable to determine the effect of company advantages and limitations through IOS. This also consistent with the

hypothesis stating that company advantages has a significant effect on IOS. On the other hand, company limitations have a non-significant effect on IOS. Thus, when path analysis was conducted to determine the effect of IOS, as a mediating variable, on financing policies, the result is similar: that is, IOS has no significant effect on company limitations.

6. Conclusion

1. Company advantages (multinationality, size, profitability) were proven to have a positive effect on Investment Opportunity Set (IOS).
2. Company limitations (leverage and systematic risk) were not proven to have a negative effect on Investment Opportunity Set (IOS).
3. Investment Opportunity Set (IOS) has a positive effect on corporate financing policies at 10% significance level.
4. Company advantages (multinationallity, size and profitability) were proven to have a negative effect on corporate financing policies.
5. Company limitations (leverage and systematic risk) were not proven to have a positive effect on corporate financing policies.
6. IOS is capable of mediating the effect of company advantages (multinationality, size, profitability) on corporate financing policies. Thus, it is supported at 10% significance level.
7. IOS is capable of mediating the effect of company limitations (leverage and systematic risk) on corporate financing policies. Thus, it is not supported.

7. Research Implications

1. Factors company advantages proven effect on investment policy and debt policy of the company, should the company in determining investment policy and debt policy to consider the factor advantages it has in order not to fail.
2. Factors company limited is not proven negative effect on investment policy and debt policy but rather a positive effect. This shows that companies in Indonesia not considering the leverage and systematic risk in deciding its policies so evident during the crisis, many companies are experiencing difficulties in returning the debt (liquidated). Implications for the future, the company will need to consider its limitations when deciding investment policy and debt policy

8. Research Limitations

1. The variables that serve as proxies of IOS are five only (MVABVA, MVEBVE, CAPBVA, CAPBVE and PER), which are the variables generally used by previous researchers. In fact, the proxy measurement varies widely and unobservable in nature. Thus, the more variable, the better it would be.
2. The representativeness of company advantages and limitations in the model adopted by AlNajjar and Belkaoui (2001) is somewhat different

from that of this study and are adjusted to the data available at BEI. Therefore, additional variable measurements are necessary to represent the characteristics of a company in terms of the actual advantages and disadvatages.

9. Recommendations for future research

1. Additional proxy variables of IOS are necessary, based either on price, investment, or variance.
2. Characteristics of a company in the forms of advantages and limitations can be expanded by additional measurement variables that are more representative, especially for companies in Indonesia.
3. Future research should consider entering the ownership structure. because the ownership structure in Indonesia is dominated by the family of this possibility in Indonesia not considering the leverage and systematic risk in deciding investment policy and debt policy
4. The samples can be further expanded to include not only manufacturing companies, but also all companies listed at BEI.
5. Increase the number of firms and years of observation.

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