OVERCONFIDENCE AND FIRM VALUE

A case study in open manufacturing industries in Indonesia and Malaysia

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ABSTRACT: Managerial overconfidence is an interesting topic to study. Overconfidence can be caused by the success of a company leader. Overconfidence affects the managerial actions and strategic policies taken by companies, especially in investment. This study aims to examine the effect of overconfidence calculated by using capital expenditure and investment opportunity set calculated by using Market Book Value Equity (MBVE) on firm value calculated by Tobin'sQ with capital structure as an intervening variable calculated by Debt to EquityRatio (DER). 232 open manufacturing industries in Indonesia and 120 open manufacturing companies in Malaysia in the period of 2016-2019 were taken as the samples by using purposive sampling technique. In this study, the data were analyzed by using Eviews 10. This study confirms that there is an effect of overconfidence on firm value intervened by the capital structure in open manufacturing industries in Indonesia and Malaysia. Meanwhile, the capital structure variable cannot intervene in the investment opportunity set variable onthe firm value in open manufacturing industries in Indonesia and Malaysia.

1. INTRODUCTION

Maximizing firm value is the goal when a company is established. The high stock price is one approach to produce optimal profit, which subsequently increases the prosperity of the company's shareholders and employees. However, in maximizing firm value, many problems such as relationships that are no longer able to compete in the global economy often arise. One of the fluctuations in firm value is the fluctuation of the stock prices in the capital market. Managers in the company are responsible to predict the company's finances in the future (e.g. cash flow, income, and competition) as an important note for the company. However, managers often make the wrong decision due to a wrong estimation. Overconfidence originates from the psychological literature (Bhandari and Deaves, 2006) related to "better than average" where a person tends to overestimate the knowledge, abilities, and accuracy of the information he/she has, resulting in inaccurate decisions. Other literature also relates overconfidence to investment, where companies with overconfident managers have high levels of capital expenditure (capex) or often overinvest without estimating returns (Ben-david et al., 2013; Hirshleifer et al., 2012). The studieson overconfidence related to investment foundthat companies with overconfident managers hadhigher capital expenditures than other companies.

In the international business world, the lawsuit against BlackBerryLtd. by thousands of its shareholders in October 2013 was one of the phenomenarelated to managerial overconfidence. In that case, BlackBerryLtd. intentionally inflated the stock price by providing a false overview of the business prospects of BlackBerryLtd.

Themanagement of BlackBerryLtd. deceived investors by stating that the company's finances and operations were progressing. In addition, the management praised itself by claiming that BlackBerryLtd.was in a strong financial position (Tempo.co.id – October 2013).

This shows that overconfident managers prefer to put forward projections of the company's future about the estimation of profits rather than possible problems. From the case of BlackberryLtd., it can be seen that overconfident managers caused agency problems between shareholders (principals) and top managers (agents) of the company.

The company's growth opportunity can be seen in investment opportunity proxied by various values of the investment opportunity set (Smith and Watts, 1992). The future investment opportunity can increase firm value. This describes firm value as assets in place with investment options in the future. Investment Opportunity Set (IOS) is the value of the company that the amount of which depends on the expenditure set by management and is expected to obtain a greater return. A high IOS value is an indication that the company is developing (Chung &Charoenwong, 2013). Every investment made by the company will, of course, require financing. Financing decision must be considered in achieving company goals because it is related to the selection of financing sources, both internal financing and external financing.

A manager's expenditure choice must be carefully considered, including which source of finances will be used.Stakeholders mostly expect an increase offirm valuewith various combinations of IOS values since the IOS affects the perspective of managers, owners, investors, and creditors of the company, which then affects the value of the company itself. Researches on IOS on firm value conducted by Astriani (2014) and Pratiska (2012) prove that IOS affects firm value. On the other hand,Nopiyani et al. (2018) and Mulyatno (2019) foundthat IOShadno effect on firm value.

2. LITERATURE REVIEW

In the theory of capital market finance, the stock price in the market is referred to as the concept of firm value. The higher the stock price is, the higher the value of a company will be (Harmono, 2017). In this study, to measure the value of the company using Tobin's Q ratio which is a concept showing the current financial market estimate of the future return value of each investment.

Overconfident managers tend to invest more aggressively than other companies. This was asserted by Ben-David et al. (2013) and Malmendier (2005) who saidthat companies with managerial overconfidence hada higher capital expenditure than companies that were not overconfident. Measuring managerial overconfidence is quite difficult since there is no exact instrument to measure it; therefore, it needs a proxy. The proxy used in this study refers to previous studies (Dashtbayaz&Mohammadi, 2016; Duellman et al., 2015) which used capital expenditure. If the result of the company's capital expenditure divided by total assets in the previous year is higher than the average expenditure in the observed year, then the value of overconfidence is 1 (one); otherwise, the value is 0 (zero).

The IOS (Hidayah, 2015) is a latent variable, which indicates that the IOS cannot be observed. Therefore, it needs an investment opportunity set proxy that is relatable to other variables in the company. The company's IOS consists of projects that provide growth. So, the IOS can be considered as a company's growth prospects in the future. This study usesa price-based proxy by using the market-to-book value of equity (MBVE).

According to Brealey, (2011) capital structure is a mix of long-term debt and equity financing. Regarding capital structure, companies always involve a trade-off between risk and return. The capital structure policy involves an exchange between risk and return, which means that the more the debt used is, the more the risk taken by shareholders will be. However, the use of high debt usually leads to the expectation of a higher rate of return on equity (Brigham & Houston, 2006). The addition of debt increases the company's risk but, at the same time, increases the expected rate of return. The higher risk of the increase in debt tends to lower the stock price, but the increase in the expected rate of return will increase the stock price.

3. METHOD

3.1 Data Collection

In this study, we used associative research, which aims to analyze the relationship between variables or the effect of the independent variable on the dependent variable. 232 open manufacturing industries in Indonesia and 120 open manufacturing companies in Malaysia in the period of 2016-2019 were taken as the samples by using purposive sampling with the following criteria:

1. Manufacturing industrieslisted on the Indonesia Stock Exchange (IDX) and the Malaysia Exchange inthe 2016-2019 period.
2. Manufacturing industrieswith complete annual financial reports in the 2016-2019 period.
3. Manufacturing industrieswhich explain all variables related to this study.
4. Manufacturing industriesthat werenot delisted inthe 2016- 2019 period.
5. Manufacturing industriesthat present financial statements in Indonesian Rupiah (IDR) and Malaysian Ringgit (MYR).

3.2 Research Variables

Table 1

Variable	Operational Definition	Formula
Overconfidence (X1)	over investment	$\frac{capital\ expenditure}{total\ asset_{-1}}$ It equals to 1 (one) if the result of capital expenditure divided by total assets of the previous year is higher than the average expenditurein the observed year and it will be equal to 0 (zero) if the result of capital expenditure divided by total assets of the previous year is lower than the average expenditurein the observed year.
Investment opportunity set (X2)	Investment decisions in the form of real assets and financial assets.	MMBVE=$\frac{Sharesoutstanding \times closingprice}{Totalequity}$
Capital Structure (Z)	Financing decisions related to sources of finance.	DER = $\frac{Total\ debt}{Total\ equity}$ x 100%

Firm value (Y)	A measure of management's success in past operations and future prospects.	Tobin's Q = $\frac{EMV+D}{EBV+D}$

4. DISCUSSION

Table 2

	Overconfidence	IOS	Capital structure	Firm value
Mean	0.530172	166.2943	224.6069	-0.04095
Median	1	2.432425	0.723185	-0.03105
Maximum	1	7638.384	7643.34	2.4086
Minimum	0	-0.07141	-1.6184	-2.5612
Std. Dev.	0.500168	702.5266	911.6426	0.951974
Observations	232	232	232	232

Based on the Descriptive Statistics Test results in Table 2, the highest value of the overconfidence variable in the open manufacturing industries in Indonesia is 1 (one), the lowest value is 0 (zero), and the mean value is 0.530172 with a standard deviation of 0.500168. The highest value of the IOS is 7638.38, the lowest value is -0.07141, and the mean value is 166.2943. In 2016, the capital structure has the highest value of 7643.34, the lowest value of -1.6184, and the mean value of 224.60. For the firm value variable, the highest value is 2.4086, the lowest value is -2.5612, and the mean value is -0.04095.

Table 3

	Overconfidence	IOS	Capital structure	Firm value
Mean	0.516667	60.93128	89.79083	-0.05787
Median	1	0.470000	0.180000	-0.085150
Maximum	1	2878.720	5313.340	1.807400
Minimum	0	0.010000	0.000000	-2.0567
Std. Dev.	0.501817	320.7561	562.5786	0.876302
Observations	120	120	120	120

Based on the Descriptive Statistics Test results in Table 2, the highest value of the overconfidence variable in the open manufacturing industries in Malaysia is 1 (one), the lowest value is 0 (zero), and the mean value is 0.516. The highest value of the IOS is 2878.72, the lowest value is 0.0100, and the mean value is 60.93128. The highest value of the capital structure is 5313.340, the lowest value is 0.000, and the mean value is 89.790. For the firm value variable, the highest value is 1.807, the lowest value is -2.0567, and the mean value is -0.05787.

4. 1Hypothesis Testing

Table 4. t-Test (Indonesia)

Dependent Variable: Capital structure (Z)				
Method: Least Squares				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
OVERCONFIDENCE	237.6084	107.8624	2.202884	0.0286
IOS	0.549863	0.076793	7.160294	0.0000
C	7.194479	78.15704	0.092052	0.9267

Table 4 shows the regression results that the overconfidence variable has a regression coefficient value of 237.60 which is significant with the Prob.value of 0.0286 < 0.05. This means that overconfidence has a positive and significant effect on capital structure. Besides, the IOS variable has a regression coefficient value of 0.5498 which is significantwith a Prob. value of 0.0000 < 0.05. This indicates that IOS has a positive and significant effect on capital structure.

Table 5. t-Test (Indonesia)

Dependent Variable: Firm value (Y)				
Method: Least Squares				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
OVERCONFIDENCE	-0.048977	0.116938	-0.418833	0.6757
IOS	6.94E-05	9.11E-05	0.761045	0.4474
CAPITAL STRUCTURE	0.000408	7.09E-05	5.761267	0.0000
C	-0.118256	0.083851	-1.410316	0.1598

In table 5 above, the overconfidence variable has a regression coefficient value of -0.048 and a Prob. value of 0.6 > 0.05, which means that overconfidence has a negative and insignificant effect on firm value. Likewise, the IOS variable has a negative and insignificant effect on firm value with a Prob. value of 0.44 > 0.05. The capital structure variable shows a positive and significant effect on firm value with a Prob. Value of 0.00 < 0.05.

Table 6. t-Test (Malaysia)

Dependent Variable: Capital Structure
Method: Least Squares
Date: 01/07/21 Time: 15:16
Sample: 1 120
Included observations: 120

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Overconfidence (X1)	189.5539	98.14582	1.931350	0.0559
IOS (X2)	0.502822	0.153547	3.274700	0.0014
C	-38.78294	71.46543	-0.542681	0.5884

In results of the table 6 above, the regression of the overconfidence variable on capital structure hasa coefficient value of 189.55 and a Prob. value of 0.0559 > 0.06. This means that the overconfidence variable has a positive and significant effect on capital structure variable in the open manufacturing industries in Malaysia. The IOS variable has a regression coefficient value of 0.502822 with a Prob. value of 0.0014 <0.05. This means that the IOS has a positive and significant effect on the capital structure in the open manufacturing industries in Malaysia.

Table 7. t-Test (Malaysia)

Dependent Variable: Firm value (Y)
Method: Least Squares
Date: 01/07/21 Time: 15:17
Sample: 1 120
Included observations: 120

Variable	Coefficient	Std. Error	t-Statistic	Prob.

Overconfidence (X1)	0.020343	0.157042	0.129537	0.8972
IOS (X2)	0.000146	0.000253	0.576224	0.5656
Capital Structure (Z)	0.000443	0.000146	3.043183	0.0029
C	-0.117045	0.112712	-1.038441	0.3012

Table 7 shows results that the regression of the overconfidence variable has a coefficient value of 0.020343 and a Prob.value of 0.8972 > 0.05. This means that the overconfidence variable has a positive but not significant effect on firm value in the open manufacturing industriesin Malaysia. The IOS variable has a regression coefficient value of 0.000146 and a Prob. value of 0.5656 > 0.05, which means that the IOS variable has a positive and insignificant effect on firm value in the open manufacturing industries in Malaysia. The capital structure variable has a regression coefficient of 0.000443 and a Prob.value of 0.0029 <0.05, whichmeans that the capital structure variable has a positive and significant effect on firm value in the open manufacturing industries in Malaysia.

4.2 Sobel Test

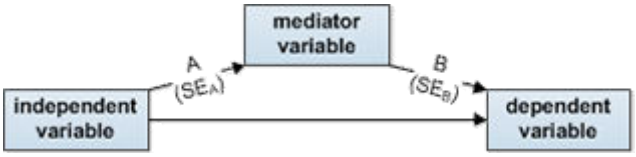
In this study, we used a calculation for the Sobel test. In this test,a variable can be an intervening variable based on the following criteria:

a. If the p-value is <0.05, then Ho is rejected and Ha is accepted, which means that there is a significant effect and it can be an intervening variable.
b. If the p-value is > 0.05, then Ho is accepted and Ha is rejected, which means that there is no significant effect and it cannot be an intervening variable.

$$Z = \frac{a.b}{\sqrt{(b^2\,SEa^2)+(a^2SE\,b^2)}}$$

a (X1) : regression coefficient of the independent variable on the intervening variable
b (X2) : regression coefficient of the dependent variable on the intervening variable
SEa : error standard of the independent variable on the intervening variable
SEb : error standard of the dependent variable on the intervening variable

In this study, weused the Sobel Test Calculator for The Significance of Mediation Kris Preacher as follows:



A: 0.130
B: 0.391
SE_A: 107.8
SE_B: 0.001

Sobel test statistic: **0.00120594**

The results of the Sobel Test for the open manufacturing industries in Indonesia show that the Sobel test statistic value is 0.0012 which is lower than 0.05(0.0012 <0.05). Thisproves that the capital structure can significantly intervene inthe effect of overconfidence variable on firm value.

A:	0.424
B:	0.391
SE_A:	0.077
SE_B:	0.001

Sobel test statistic: **5.50594753**

From the calculation above,it is found that the Sobel test statistic value is 5.50 which is greater than 0.05(5.50 > 0.05), meaning that the capital structure cannot significantly intervene in the effect ofIOS on firm value in the open manufacturing industries in Indonesia.

A:	0.169
B:	0.285
SE_A:	98.14
SE_B:	0.001

Sobel test statistic: **0.00172203**

The Sobel value obtained from the Sobel test of the overconfidence variable on firm value through capital structure is 0.00172 <0.05. This shows that the capital structure can intervene in the effect of overconfidence on firm value in the open manufacturing industries in Malaysia.

A:	0.287
B:	0.285
SE_A:	0.154
SE_B:	0.001

Sobel test statistic: **1.86359652**

The results of the Sobel test of the IOS variable on firm value through the capital structure show a Sobel test statisticvalue of 1.886 > 0.05. This indicates that the capital structure cannotintervene in the effect ofIOSon firm value in the open manufacturing industries in Malaysia.

5 CONCLUSION

1. Overconfidence has a positive and significant effect on the capital structure of the open manufacturing industries in Indonesia and Malaysia.
2. The investment opportunity set has a positive and significant effect on the capital structure of the open manufacturing industries in Indonesia and Malaysia.
3. Overconfidence has a positive and insignificant effect on firm value in the open manufacturing industries in Indonesia and Malaysia.
4. Investment opportunity set has a positive and insignificant effect on firm value in the open manufacturing industries in Indonesia and Malaysia.
5. Capital structure has a positive and significant effect on firm value in the open manufacturing industries in Indonesia and Malaysia.
6. Capital structure is able to intervene in the effect of overconfidence on firm value in open manufacturing industries in Indonesia and Malaysia.
7. Capital structure is not able to intervene in the effect of investment opportunity set on firm value in open manufacturing industries in Indonesia and Malaysia.

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