

Managerial overconfidence and firm financing decision: an Indonesian case

Werner Ria Murhadi

University of Surabaya, Surabaya, Indonesia

ABSTRACT: This research aims to determine the effect of managerial overconfidence and firm characteristics on financing decision of a firm. This research uses panel data from the entire companies listed on Indonesia Stock Exchange (BEI), except financial industry within 2006–2015. The result showed the higher the confidence of an executive, judged by the profile photo, the smaller the debt used by the firm (1) the higher the past performance of a ratio, measured from the cash flow on operational activity to total asset, the lower the debt used by the firm (2) Higher education level of the executive tends to increase the usage of debt by the firm (3) The past working experience of a CEO will make him able to face many situations using the available information and it is likely to be unbiased (4) Finally, gender does not have a significant effect on the size of the debt in a firm.

Keywords: financing decision, behavioral finance, managerial overconfidence, firm characteristics

1 INTRODUCTION

Financing decision is one of the most important parts in a firm. Improper financing decision will result in an expensive cost of capital, followed by disapproval of potential projects that would have been beneficial to the firm. Current theories like Trade-Off theory (Miller 1977), Pecking Order theory (Myers 1984, Myers & Majluf 1984), and Agency theory (Jensen & Meckling, 1976) are focusing more on the relationship between financing options and market instruments, industry and the firm's internal, such as tax, bankruptcy cost, and asymmetric information level in the firm. This research is done from a different perspective, which is through behavioral finance, specifically intertwined with management characteristics. Behavioral finance combines neoclassical economic theory with psychological insight and neuroscience to describe the explanation behind the deviation of the previous basic assumption, that is rational/efficient (Scheinert 2014), done by individuals, firms, and markets. Individuals are no longer seen to always think rationally, but they are also affected by emotional factors and cognitive bias in taking decisions.

Malmendier *et al.* (2011) stated that characteristics of a firm's management can be an explanatory factor in a firm's decision to choose between financing alternatives. A firm which is operated by management team with higher confidence (overconfident

CEOs) believes that its management team will be able to generate cash flow and increase the firm's value. An overconfident management, when having to use external financing, is most likely to utilize debt than issuing shares. Fedyk (2014) defines that in the trade-off theory, rational CEOs would prefer debt financing or share issuance after considering the cost and benefit of each alternative. In the trade-off theory, management would choose an optimized financing, by taking tax saving and bankruptcy expense into consideration. However, this theory fails to explain the practical findings, which proves that firms often choose financing alternative that passes the optimal point. Kiong Ting *et al.* (2016) then did a similar research, stating that there is an assumption of managers and financial industry subjects who tend to act rationally (Barros & da Silveira, 2009). On the other hand, psychology experts believe that human beings do not always think rationally. When human beings do not think rationally, their acts in taking decision are most likely to be overestimating or underestimating. Overestimation is highly relevant to a personal act that is related to overconfidence (Wei *et al.* 2011). Li *et al.* (2009) in Kiong Ting *et al.* (2016) explained that overconfidence is a miss calibration of self-confidence. Overconfident people tend to overestimate their self-confidence, or underestimate variety of risks. Nofsinger (2003) stated that overconfidence will encourage managers

to invest using more debts than doing many acquisitions.

There are different views on the effect of managerial overconfidence towards firm's debt financing decision. Rechner & Dalton (1991) explained that overconfident managers tend to use more debts. Hambrick & Cannella (2004) made few decisions related to the implication of decision making by overconfident managers: (1) Managers tend to invest more; (2) The investment is done by using debt; (3) The firm has bigger default risk. While Almeida *et al.* (2005) interviewed CFO and found that overconfident CFO tends to use more debts, particularly long-term debt.

Malmendier & Tate (2005) showed a different result, whereas overconfident managers prefer to use internal funding first, then debt, and stock. This happens because managers overestimate their abilities to increase the firm's value; therefore they also tend to overestimate the future cash inflow of a project. Abor (2007) supported the result from Malmendier & Tate (2005) that optimistic managers show a strong relevancy between debt utilization and deficit financing, compared to non-optimistic managers.

According to many references, an alternative is needed to explain the phenomenon in financing selection using management characteristics related to managerial confidence. This research examined the effect of managerial overconfidence on firm's financing decision. This research used control variables from the research of Ernawati & Murhadi (2013), such as firm profitability, firm size, asset tangibility, and firm growth, which according to previous studies; they showed a significant effect on the financing decision.

This research focuses on discussing the effect of management behaviors, particularly managerial overconfidence that will affect firm's financing decision making. A confident management will believe in their abilities to generate cash and value to the firm, therefore, it tends to be bolder in taking risk by utilizing more debts. Control variables such as firm profitability, firm size, asset tangibility, and firm growth, will be taken into this research as these variables have been used in many studies as an influential factors to a firm's financing decision. Based on the identification, a major research question has been developed: is managerial overconfidence affecting firm's debt positive significance. From the major research question, minor research question using proxy from Managerial Overconfidence proxies, such as CEO profile photo in annual report, CEO level of education, CEO level of experience, CEO gender, and CEO past working performance have been developed.

2 RESEARCH METHODS

The data source used in this research was secondary data generated from an annual report published by the firm and listed on Indonesia Stock Exchange (BEI). This research used the entire companies listed on Indonesia Stock Exchange (BEI), except financial industry due to different financing structure. The research period was taken from 2006-2015. The sample characteristics were: (1) the firm listed on Indonesia Stock Exchange (BEI) for the entire period, (2) the firm did not have negative equity because a negative equity would result in an undefined debt to equity ratio.

As for the dependent variable, this research used debt measured by long-term debt to total asset, and long-term debt to total equity for the robustness test.

Independent variables tested were managerial overconfidence, as employed in Kiong Ting *et al.* (2016), using personal characteristics of management, such as CEO profile photo (PP) in the annual report, CEO level of education (EDUC), CEO level of experience (EXP), CEO gender (GEN), and CEO past working performance (PWP). CEO profile photo used nominal scale by 4 points if the CEO profile photo is presented in the annual report, at least, half of the whole page, 3 points if it is less than half of the page, 2 points if there is another profile photo aside the CEO in one page, and 1 point if there is no profile photo of the CEO (Schrand & Zechman 2012). For the level of education, as stated by Rakhmayil & Yuce (2013), a higher level of education and working experience will positively affect debt usage. Level of education used nominal scale by: 1 point if CEO is below bachelor graduate, 2 points if CEO is a bachelor graduate, 3 points if CEO is a master graduate and 4 points if CEO is a doctoral graduate. CEO's experience will make CEO capable of encountering many situations using existing information and tends to be unbiased, and will shape its confidence. This research applied dummy variable by 1 point if previously the CEO had once held a position as a chief officer (CEO, CFO, COO, CIO, and other equivalent positions) whether in the current or different firm and 0 if it was the other way around. In terms of gender, Huang & Kisgen (2012) explained that male executive tends to be more overconfident than female. In relation to that finding, gender variable in this research used 1 dummy variable for male CEO and 0 for female CEO (Abor 2007). The next measurement for the independent variable is CEO past working performance. A CEO good working performance encourages CEO confidence. This research measured CEO past working performance based on operational performance in

the past. Past working performance proxy is measuring operating cash flow to total asset ratio (Balafas & Florackis 2014).

Control variables in this research were firm profitability (ROA), firm size (SIZE), asset tangibility (TAN), and firm growth (GR). Firm profitability will employ Return on assets ratio. Firm size will be measured by the natural logarithm of total sales. Asset tangibility will be generated from fixed asset to total asset ratio. Finally, firm growth will be measured through the current year sales growth compared to the previous year. This research undertook data panel, followed by a series of panel model tests, such as Common Effect (CE), Fixed Effect model (FEM), and Random Effect Model (REM). Out of these 3 models, Chow and Hausman test was used to choose one best method.

3 RESULTS AND DISCUSSIONS

After applying Chow & Hausmann test to 3 models of data panel, such as CE, FEM, and REM, The chosen model for interpretation is FEM.

Table 1. Inferential Statistic Result for Model 1

Variable	FEM-1.1		FEM-1.2.	
	beta	T	Beta	t
PP	-0.020	-2.86*	-0.019	-2.86*
EDUC	0.022	1.84**	0.0220	1.84**
EXP	0.036	2.49*	0.0359	2.49*
GEN	-0.009	-0.19		
PWP	-0.167	-3.32*	-0.167	-3.33*
ROA	0.087	1.54	0.0871	1.55
SIZE	-0.013	-1.70**	-0.013	-1.69**
TAN	0.062	1.51	0.062	1.50
GR	0.019	1.44	0.019	1.44
R	0.757		0.757	
Squared Adjusted R	0.725		0.726	
Squared F Statis- tics	23.497*		23.987*	

Information: * Significance on $\alpha = 5\%$; ** significance on $\alpha = 10\%$

From the F test, we can see that FEM model 1 is significant, which means that altogether the independent variable is affecting the firm financing decision. In table 1, especially model 1 that uses FEM as seen from five measurements of managerial overconfidence, four proxies are found to be significant, such as profile photo, education, experience, and past working performance. This result implies that

managerial overconfidence variables in the executive will determine a firm financing decision. Two of five managerial overconfidence approaches (profile photo & past working performance) appear to be negative significance, while education and experience are positive significance, and gender appears to give no significant effect.

Table 1 shows that the result of profile photo is different from the hypotheses, where apparently, the higher the confidence of an executive, the lower the debt used. This result is consistent with the research done by Kiong-Ting *et al.* (2016), which means that the more confident the executive, the less the debt used by the firm. Therefore, this result explains that overconfident executive prefers to utilize internal funding for its new projects in expectation to give additional value for the shareholders.

Meanwhile, education was found to be positive significance, which means that the higher the level of education, the higher the confidence of the executive that will likely raise the usage of debt. The confident executive will have high assurance that the new project invested is a right choice, which is why the executive is certain on its ability to pay-off the debt. Similar to the working experience, it also shows a positive significant result. It appears that by having a working experience, a CEO will be able to encounter many situations by using existing information and tends to be unbiased, and this will form his confidence. CEO experience at its previous specific position (CEO, CFO, COO, CIO, and other equivalent positions) either at the current firm or the previous firm, will be useful in overcoming problems that might appear at new projects, so CEO tends to use debt financing. Table 3 shows that gender has no effect on the firm financing decision. With the education and experience owned by CEO, and by focusing on the past working experience, the firm will be the main factor in shaping CEO confidence when it comes to choose whether to use debt or not. It is also presented in table 1, the second FEM model by removing gender variable that is not significant. By removing insignificant factor like gender, the result of the test shows consistency on both sides; direction and significance.

Robustness test was done by using long-term debt to total equity as the dependent variable. The result can be seen on table 2. FEM 2.1 model is a model that uses all independent variables as used in FEM 1 on table 1. The result from the test shows that education, experience, and past working experience are proven to be affecting, while gender is consistently showing the insignificant effect of firm debt usage decision. However, there has been a shift, where profile photo that is previously signifi-

cant, has now become insignificant. The test is robust since 3 out of 5 managerial overconfidence measurements, have direction and significance that suit the main model.

Table 2. Inferential Statistic Result for Model 2

Variable	FEM 2.1.		FEM 2.2.		FEM2.3	
	beta	T	beta	t	beta	T
PP	-	-	-	-	-	-
	0.13	1.54	0.13	1.53		
EDUC	0	2.	0	2.	0	2.
	.33	26*	.33	26*	.34	31*
EXP	0	2.	0	2.	0	2.
	.45	53*	.45	52*	.46	61*
GEN	-	-	-	-	-	-
	0.16	0.27				
PWP	-	-	-	-	-	-
	2.61	4.23*	2.61	4.24*	2.65	4.29*
ROA	2	2.	2	2.	2	3.
	.02	93*	.02	95*	.08	03*
SIZE	-	-	-	-	-	-
	0.29	3.12*	0.29	3.11*	0.31	3.40*
TAN	-	-	-	-	-	-
	0.77	1.53	0.78	1.54	0.82	1.61
GR	0	1.	0	1.	0	1.
	.28	64	.28	64	.28	68**
R Sq.	0.37		0.37		0.3741	
Adj.R Sq.	0.29		0.2967		0.2944	
F Stat.	4.57*		4.66*		4.69*	

Information: * Significant on $\alpha = 5\%$; ** significant on $\alpha = 10\%$.

In table 2, a test is also done to remove insignificant factors (gender) in model FEM 2.2.; also, (gender & profile photo) in model FEM 2.3. The result shows consistency in direction and significance of 3 variables, (education, experience, and past working experience) to firm's financing policy. As for the control variable in model FEM 1 and model 2, the result is that firm size has a negative significant result on financing. This result means that the bigger the firm size, the less the use of debt. It is because a big size firm tends to dominate the market, so the firm earns a higher profit. A firm with a high profit tends to avoid the option of using debt in its financing policy. For the other control variables, which are tangibility and growth, a consistent result of being insignificant either on the first and second model is found. Meanwhile, for profitability, there has been a significant change, which on the first model, it is proven to be insignificant, yet on the second model, it turns out to be negative significant.

4 CONCLUSION

The result generated from this research shows 4 proxies out of 5 managerial overconfidence measurements proven to be significant, they are profile photos, education, experience, and past working performance. This result means that managerial overconfidence variable in an executive characteristic will determine firm financing decision. Out of 5 managerial confidence approaches, 2 variables, profile photo and past working performance, are showing negative significant results, while education and experience show positive significant results, and gender does not have a significant impact. Managerial overconfidence in this research was only based on the data presented in the firm's annual report. In the future, a better questionnaire method or interview is expected to generate a better result to reflect managerial overconfidence.

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