

Psychological effect on capital structure: The impact of overconfidence on firm's leverage decision in Malaysia.

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Keywords

Managerial Overconfidence, Capital Structure and Leverage

Abstract

The paper is made with an attempt to bridge the gap in literature by offering empirical evidence about psychological effect on capital structure and its impact on firm's leverage decision in Malaysian public listed company. The secondary data for analysis is retrieved from Annual Report of public listed companies selected from Bursa Malaysia for five years period from 2014-2017. The study aims to determine the relationship between the managerial overconfidence and capital structure decisions. Applying correlations and multiple regression analysis, the results expected to show that there is a significant positive association between managerial overconfidence with firm's decision on capital structure.

Introduction

Capital structure has been broadly studied not only by academic researcher but also by the financial analyst. This is due to the facts that one of the main functions of a corporate finance manager is to determine the firm's financing decisions or known as the capital structure decisions. There are various studies conducted to investigate the factors of determining firm's capital structure and it had been widely accepted in corporate world. Example of the theory of capital structure are trade-off theory, pecking order theory and agency cost theory. However, this theory highlighted on applying basic data oriented like agency costs, asymmetric information and transaction cost (Oliver, 2005).

Recently, the researcher also interested to study both human psychology and behavior towards capital structure decision. For more than two decades, researchers have become increasingly attracted in determining the backgrounds of corporate financing decision. Even though we can say that Malaysian are quite familiar with this topic but some companies in Malaysia suffered from debt burden. Nevertheless, companies frequently choose very different level of corporate leverage although they are similar in terms of firm fundamentals.

Most of the previous studies support traditional financial theories in debating determinants of capital structure such as Trade-off Theory (Miller, 1977), Pecking Order Theory (Myers and Majluf, 1984; Myers, 1984) and Agency Theory (Jensen and Meckling, 1976). However, these studies focusing on firm fundamental characteristics in investigating corporate financing decision. Less attention was given to empirically study other potential factors mainly behavioral finance. The possible roles of human specifically the financial managers in deciding capital structure choice cannot be ignored (Barros and da Silveira, 2009). Due to this, we consequently have a purpose to investigate the effects of human primarily CEO characteristics towards corporate financing decision.

Based on Barros and Da Silveira (2009), they view that managers and financial market participants always act rationally. Yet, psychologists believe that people are not completely rational. They tend to overestimate or underestimate in making their corporate decision when they are irrational. Overconfidence can occur when they overestimate their decision and is closely related to their personal behavior (Wei et al., 2011). Li et al. (2009) explain that overconfidence is a general miscalibration in beliefs. Additionally, they added that overconfident people always underestimate the dispersion of risky processes.

Moreover, Nofsinger (2003) found that overconfidence driven corporate managers to make corporate investment, do more acquisitions and employ more debt financing. It was further supported by Hackbarth (2008) where he confirms that overoptimistic and overconfident managers issue new debt more often and choose higher debt levels as a source of firm financing. Furthermore, it was suggested that an optimistic society is more willing to take on additional debt to finance the increasing habit in spending. Thus, a question arises here is financial manager overconfidence behavior contributing any significant influence in determining the corporate financing decision?

As an extension to the discussion, Skala (2008), define overconfidence as miscalibration. Meaning that, overconfidence can be classified as the difference between accuracy rate and probability assigned for decision making problem. Meanwhile in financial context, overconfidence is defined as interpretation of one's own knowledge or private information or overestimation for the certainty.

Psychologists believe that individuals are especially overconfident about consequences they believe are under their control (March and Shapira, 1987) and to which they are highly keen to do (Weinstein and Klein, 2002). Psychological discover that overconfidence bias brings people to overestimate their ability to control events and underestimate risks. Hence, overconfident managers are exposed to underestimate financial distress costs but overestimate their performance and knowledge.

Literature Review and Hypotheses

Review of theories of capital structure

There are two widely accepted theories under capital structure: The Trade-Off theory (hereafter TOT) and Pecking Order Theory (POT). For TOT, this theory recognizes the existence of bankruptcy cost and as a result argue that debt financing has its benefits. This theory can be considered in order to enjoy a reduction in tax and therefore maximizing the firm's value. However, problem arise if the firms cannot pay its debt, they will face with bankruptcy problem.

Recently, there is a new emerging idea of finance literature considers bounded rationality and associated behaviors of decision makers as features of financial phenomena (Subrahmanyam, 2008). Moreover, Oliver (2005) point out an individual manager's characteristics has a potential in determining firm's financial leverage. The behavioral finance study proposes the Upper-Echelon theory (UET) to explain this phenomenon.

Similarly, based on Ricciardi and Simon (2000), behavioral finance attempts to explain the what, why and how to finance and invest from a human perspective. Baker, Ruback, and Wurgler (2004) claim that behavioral corporate finance as more realistic behavioral assumptions and thus suitable to replaces traditional rationality assumptions. Shefrin (2001) signifies that there are two keys behavioral barriers to the process of value maximization. The first barrier, which he calls "behavioral cost," potentially weaken value creation since it is internal to the firms. Cognitive imperfections and emotional influences are linked with errors of managers due to the existence of behavioral cost. (Vasiliou and Daskalakis, 2009:20).

2.2 Managerial overconfidence and corporate financing decision.

Utmost all the psychology studies correspond that people are not completely rational, comprising the head of the company. This imperfect characteristic includes managerial overconfidence. Hilary and Hsu (2011) explain that "static" overconfidence has been revealed to be a mutual type of cognitive bias. Brick et al. (2006) verify that overconfidence underestimate of the variance of risky processes and it is actually a general miscalibration in beliefs. They further say that managerial overconfidence is not only the CEOs overestimate their own ability to influence the probability of project success but also in corporate financing decisions. Boubaker and Mezhoud (2011) highlight as human beings, when they are not completely rational their beliefs and preferences may disturb the process of decision making. Commonly overconfident CEOs bear the penalties of insufficient internal funds by limiting their investment as a result of overestimating the return to their investment projects (Lin et al., 2005).

There is no specific pattern in the impacts of managerial overconfidence on corporate financing decision. Lin et al. (2005) investigate Forbes 500 CEOs and come up with result that overconfident CEOs have a great sensitivity of corporate investment to cash flow in equity dependent firms. Wei et al. (2011) further supported that overconfident managers normally underestimate the related risks but at the same time overestimate the profitability of investment projects. Thus, they consider that firm will have lower

debt if it was led by stronger overconfident managers. They explain it as creditors reluctant to entertain firms facing high liquidity risks by rejecting debt financing applying by them.

Furthermore, Abdullah (2004) further supported that creditors is not willing to provide debt finance when firm is having low credit rating. When firms are overestimating the investment projects it will make most bankers given low credit rating to the firm. Consequently, creditors are not willing to offer debt finance when managers are overconfident by under-assessing the related risk which providing low credit rating. Fairchild (2009) added the discussion on the effects of managerial overconfidence. On one hand, he agrees with a positive connection among overconfidence and liability in maintaining a business. Then again, his second model demonstrates that overconfidence has an impact in bringing down the level of debt when firm involves in a new task or project.

Accordingly, overconfident managers will perceive new project as value added to their firm and this will make them to decrease the debt level to finance new project. This finding is consistent with Coles et al. (2006) who agree that overconfident managers might cause the direct associations between debt maturity structure and asset structure declining.

Nevertheless, there is an opposite view on managerial overconfidence and corporate financing choice. Rechner and Dalton (1991) express that overconfident executive often possess higher asset liability ratio since they make use of higher level of debts. Hambrick and Cannella (2004) conclude that the major consequences of overconfidence managers in their decision making are as follows. First, they will tend to do more investment; Second, they will issue more debt to finance their investment and; Third, they experience high potential of default risk. They conclude that, as compared with rational managers, biased managers choose higher debt levels and thus worsening underinvestment. Almeida et al. (2005) consult US firms' CFOs and discover that overconfident CFOs invest more, use more debt, mainly debt that mature more than 1 year. This result is further supported by Malmendier and Tate (2005) whereby they found that overconfident managers in their financing preference may choose to go for internal financing, debt financing and then only equity financing as a last resort to obtain sources of fund for their firms. They consider that this is primarily due to overconfident managers may overrate their abilities to expand firm's value, and thus overestimate the investment project's future cash flows. The effect of managerial overconfidence on corporate financing choice is a vital issue for Malaysia and even more for the most part in the ongoing literature. But the past discoveries are uncertain. The paper wishes to make some contributions to the existing literature by examines the effect of managerial overconfidence on leverage decisions for Malaysian firm which is inadequate in Malaysia. It is anticipated that the finding from this study could fill in as an indicator in evaluating the effect of managerial overconfidence on corporate financing choice. Hence,

H₀: The presence of managerial overconfidence is not significantly affecting firm's leverage decision.

H₁: The presence of managerial overconfidence is significantly affecting firm's leverage decision

Data and methodology

Source of Data

The primary sample consist of all construction firms listed in the Main Market in the Bursa Malaysia as at December 31, 2018. The researcher is using the secondary data. All the financial data are obtained from the firm's annual report. DataStream. Business Confidence Survey to measure managerial overconfidence characteristics is collected from Malaysian Institute of Economic Research. However, firm do not have the required information for calculating research variables will be excluded from the sample.

3.2 Variables measurement

3.2.1 Independent variable

The researcher uses Business Confidence Survey as a proxy to measure the managerial overconfidence following Oliver (2009), and Park and Kim (2009). Malaysia Business Confidence was represented by Business Conditions Index Survey which provide input for the Institute's economic forecasting activity. It is conducted on a quarterly basis to assist in assessing the short-term outlook for the economy. The survey findings are used to supplement the availability of quantitative information from conventional sources. A Business Conditions Index is constructed from the survey results which gives advance information that permits inferences to be drawn regarding emerging economic trends.

3.2.2 Control variables

Based on past studies, the researcher also identifies few variables as control variables. (a) Return on Assets (ROA): The study uses the value of the ratio of earnings after tax to total assets (Shah 2012; Ahmed Sheikh and Wang 2013). (b) Firm Size (TA). It is measured by the total assets of the company (Pandey 2004).

3.3 Research Model

In order to explain how independent variables do affecting the dependent variable, panel regression was constructed as the following:

$$LEVE_{it} = \alpha_0 + \alpha_1 CEOOF_{it} + \alpha_2 ROA_{it} + \alpha_3 SIZE_{it} + \varepsilon_{it}$$

WHERE: α_i , $i=1-3$, are coefficients of the respective independent and control variables.

LEVE_{it}=leverage of firm i at time t , measured by total debts to total assets

CEOOF=CEO overconfidence of firm i at time t

ROA_{it}=Return of asset of firm i at time t

SIZE_{it}=Total Asset of firm i at time t

E_{it}= error term

4.0 Findings and Analysis

4.1 Descriptive statistics of the variables used in the analysis is shown in Table 1. The statistics reveal that Malaysian managers are having a confidence level of 97.76 out of 100 averagely. The return on assets for Construction Companies are averagely at 2.65 percent. Moreover, the findings also indicate that Malaysian construction companies have possess RM 920,968,995 in average of total assets. Finally, the average value of leverage ratio among the construction companies in Malaysia stand at 21.71 percent.

Table 1: Descriptive statistics of variables

Variables	Mean	Kurtosis
CEOOF	97.76	1.667693
ROA	2.65	36.66339
TOTAL ASSETS	920,968,995	25.3811
LEVERAGE	21.71	4.662434

Furthermore, researcher will analyze the kurtosis. When the value of the kurtosis is more than 2, the variable is normally distributed. The kurtosis values for each of the variable are shown in above table. CEOOF has value of kurtosis less than 2 which means that the data is not normally distributed. Because of that, the researcher needs to log the raw data.

Table 2 reports the results of the multiple regression analysis, using both pooled OLS and panel regression techniques. Using a pooled OLS regression, the empirical evidence shows a positive relationship between the CEOOF and leverage but not significant in explaining variation in leverage of the firms. This finding is consistent with Tomak (2013) indicating that there is not clear and enough evidence for the idea of overconfident managers tend to use high level of debt and thus management confidence and leverage relation is uncertain. However, based on the ROA depicts that profitability has a significantly positive relationship with debt ratio or leverage of the firms. This finding is consistent with Rabiah et al. (2012) suggested that positive relationship between profitability and leverage because high profitability will encourage companies to use debt financing to enjoy the benefits of tax shields on interest expenses. Other than that, the researcher also found positive and significant relationship between the total assets and leverage in line with Murray and Goyal (2009) whereby they found that firms that a large (in terms of assets) tend to have higher leverage.

Simple pooled OLS regression cannot adjust for firm specific or time-specific effects. Therefore, proceed with Breusch-Pagan Lagrange Multiplier (BPLM) test to classify whether all the data can be pooled or otherwise cannot be pooled. Data cannot be pooled refers to the null hypothesis where it must use the pooled OLS as to know the result of the relationship between dependent and independent variable.

The fixed effect model (FEM) and random effect model (REM) can solve this problem. Hausman test was conducted to determine a better model. The Hausman test statistics suggest the use of REM.

A multicollinearity test was conducted to check the for correlation among the regressors. Setting the cut off value for VIF at 10, the researcher finds no multicollinearity. As for heteroskedasticity, it will not suffer from heteroskedasticity problem when the condition of the p-value is more than 0.05. Both the Modified Wald and Wooldridge Test shows p-value is less than 0.05 As a final point, when the data is suffering from auto correlation problem and heteroskedasticity, the Newey- West test will be conducted in order to resolve the problems.

Table 2: Regression results

Variable	Pooled OLS	REM	REM with Robust
Constant	-12.33018 (0.341)	-8.533679 (0.228)	-8.533679 (0.244)
lnCEOOF	-0.9091475 (0.740)	0.5122749 (0.705)	0.5122749 (0.710)
lnROA	-0.2644146 (0.039) **	-0.3547744 (0.000) ***	-0.3547744 (0.000) ***
lnTOTAL ASSETS	0.9249948 (0.000) ***	0.4160398 (0.039) **	0.4160398 (0.053) *
BPLM test	0.0000		
Hausman test	0.3709		
R ²	0.2605	0.2121	0.2121
F-statistic	13.03 (0.0000)		
Wald Chi Square		24.76 (0.0000)	17.96 (0.0004)

Note: *, **, and *** denote the statistical significance at the 10%, 5% and 1% level, respectively.

Since there is autocorrelation problem, the researcher used White robust standard error to solve it. Therefore, the regression model from this study as follows:

$$\text{Lev} = -8.533679 + 0.5122749 \text{ceoof} - 0.3547744 \text{roa} + 0.4160398 \text{ta}$$

As a result, the researcher failed to reject the null hypothesis whereby the presence of managerial overconfidence is not significantly affecting firm's leverage decision.

5. Conclusion

This study examines the relationship between managerial overconfidence and financial leverage decision for 38 public listed construction companies in Malaysia for the period of 2014 to 2017. The findings can be concluded as follows. (1) CEO overconfidence based on Business Confidence Index is positively related to leverage but insignificant in explaining the variation in leverage. (2) Firm's profitability (ROA) is significantly and negatively related to leverage. (3) The higher the total asset, the higher the debts of a firm. For future research, it is recommended that more direct measurements for managerial overconfidence to be considered. In addition, future researcher might extend the study to determine the effect of CEO Leadership Style in determining leverage decision.

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