Impact of Ownership Structure on Capital Structure: A Study of Corporate Financing of Manufacturing Companies in Malaysia

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Abstract

In this study, ownership structure, namely managerial shareholdings, largest shareholdings and institutional shareholdings are considered to be the main factors in deciding the sources of fund available to the firm. Relying on fixed effect panel data regression estimation of 46 manufacturing companies under Bursa Malaysia, we found a negative relationship between managerial shareholdings and capital structure, reflecting the choice of equity financing than debt financing of lower managerial shareholdings where the systematic risk of debt to the management is higher. This result also supports the pecking order theory. In contrast, as external block holders, largest and institutional shareholdings have a positive relationship with capital structure, indicating the role of financing decision taken by these investors to issue more debt that reduces the conflicts of interest between managers and shareholders. Additionally, firm's size and earnings are significantly negatively correlated with capital structure by fixed effect estimators.

Keywords: Capital Structure; Fixed Effect; Institutional Shareholdings; Largest Shareholdings; Malaysia; Managerial Shareholdings; Ownership Structure

1.0 Introduction

Ownership structure is a part of corporate governance of the firm. It is a tool for maximizing shareholders' wealth by minimizing the conflict of interests between principal and agent (Kararti, 2014). In other words, Ownership structure is a controlling mechanism of corporate governance which minimizes the agency problem through the threat of takeover as external mechanism and the composition of the board as internal mechanism. On the other hand, Capital structure is a mixture of debt and equity in sourcing the fund that has a major role in corporate finance field. Financing options may consist of debt, equity and hybrid securities which will reflect the firm value and performance. Higher level of debt financing may result in default and bankruptcy cost while equity financing will give bad signal to the public on the performance of the firm. Good capital structure decision taken by the managers will maximize the utilization of the investment and sustain the firm operation in the long run. Therefore, it will ensure the achievement of firms' objective in maximizing the shareholders' wealth or the value of the firm. There are many previous studies that focused on determining the relationship between ownership structure and firm performance as conducted by Lauterbach and Vaninsky (1999). It is rarely found the study conducted on the impact of ownership structure on capital structure especially in emerging country like Malaysia. Thus, it will be an interesting study to be carried out on the topic to examine the relationship between ownership structure and capital structure of manufacturing companies in Malaysia.

Ownership structure, in this study, is represented by the shares held by managerial or internal shareholders and external block holders of the firm. Blockholders consists of largest shareholders and institutional shareholders that may affect the capital structure of the firm based on their portion of shares held in the firm. Influential ownership may affect the capital structure decision. The capital they invested in the firm will be at risk if they do not practice their right as shareholders of the firm such as voting, board meeting and so on. Manufacturing companies is selected due to the transition of current economy and the challenges to remain competitive in the same industry. Besides, manufacturing sector shows uptrend in the economy due to the global demand in electronic and domestic market-oriented industries such as food and industrial products (Kuen, Y., 2017). This sector is expected to grow with the global lead indicators for manufacturing and services, continued demand on chips and sustained sturdy domestic spending on construction. Thus, the challenge of this sector is mainly to raise the productivity. 11th Malaysia Plan with the strategy of increase automation and boosting workforce skills development will be able to increase the productivity of this sector.

Besides, there are three subsectors, chemicals, electric and electronics, and machinery and equipment are assigned under manufacturing sector to improve the sector as technology production sector with high value ("Malaysian Manufacturing Sector Expanding but Faces Challenges," 2017).

Moreover, the globalize world where Information and Communication Technology (ICT) played an important role will enhance the growth of the manufacturing sector in the long run. Therefore, this study is conducted basically to examine the relationship between ownership structure and capital structure of manufacturing sector in Malaysia. Specifically, we look into the impact of Managerial Shareholdings (MSO), Largest Shareholdings (LARG) and Institutional Shareholdings (INST) on capital structure decision to alleviate the agency problem due to separation of ownership and control.

2.0 Literature Review

Theory that will be used to discuss the impact of the ownership structure on capital structure decision is agency theory where conflict of interest between principal and agent due to separation of entities can be reduced by aligning the interest between two parties through monitoring tools. Besides, pecking order theory that involves asymmetric information kept by the managers will help in determining the correct capital structure decision in sequences such as internal funding, retained earnings, debt financing and equity financing. Capital structure theory is developed by Modigliani and Miller (1958) where they stated that the capital structure is independent with the firm value in perfect economy with non-existence of transaction cost, bankruptcy cost and taxes. In fact, the perfect economy never exists thus it is stated as irrelevant theory. Capital structure decision will only be made by the upper management thus it will eventually involve the ownership structure in determine the financing options of the firm to minimize the agency problem. Ownership structure of the firm influence the capital structure decision taken by the decision maker where it is represented by the shareholders of the firm such as managerial shareholders, largest shareholders and institutional shareholders. Managerial shareholders ensure the interest of alignment between shareholders and managers to maximize shareholders' wealth where they are highly motivated with the incentives provided by the firm. Asymmetric information of pecking order theory enhances good evaluation on capital structure decision that reduces the default in misinterpretation of situation.

Agency theory is established by Stephen Ross (1973) and Barry M. Mitnick (1975) independently in early 1970s where Ross focused on economic agency theory and Mitnick on the institutional agency theory. This theory explained the conflict of interests that exist between principal and manager. It may incur agency cost to monitor the managers in operating the organization where the organization goal is to maximize shareholders' wealth. According to Delves and Patrick (2008), agency theory is the study of agency relationship which may arise the issues mostly dilemma between principal and agent in achieving the same goal but sometimes with different interest. Agency cost will incur if the agent does not perform the task according to the principal preference where the principal needs to control and manage the agent to ensure their goal is achieved and self-interest of the agent does not exist. Conflict of interests that exists among the principal and agent will affect the capital or debt financing decision in the firm. Pinegar and Willbricht (1989) stated that the conflict of interests between principal and managers can be overcome without incurring agency cost which is through increasing the debt level of the firm. Lubarkin and Chatterjee (1994) also mentioned that increasing debt-to-equity ratio will ensure the managers to run the firm more efficiently. The managers will return the excess cash flow generated from the operation of the firm back to the shareholders in term of dividend pay-out rather than invested in negative NPV project since the managers should repay back the debt obligation of the firm. Therefore, leveraged firms are better for the shareholder to monitor the managers as debt obligation can be used as a tool to monitor. Thus, managers who cannot meet the debt obligation can be replaced with someone who can serve the shareholders better. On the other hand, high level of debt financing may result in higher cost of bankruptcy and cost of capital. Besides, the low rating rated by the rating agencies may not attract the investors to invest in the firm as well.

Trade-off theory is developed in 1963 by Modigliani and Miller based on the choice between debt and equity of capital structure decision. Firms pursue debt financing due to tax-shield that may increase the value of the firm. Though, firms having a higher level of debt, harm from the debt will lead to bankruptcy costs when bankruptcy cost is higher than tax saving advantage. Thus, tax-shield can offset bankruptcy cost with the same amount (Shahar et.al, 2016). Myers and Majluf (1984) stated that the firm that recognize the trade-off theory will eventually set their target debt and moves toward their target.

Pecking Order theory mainly discuss the existence of asymmetric information kept by the managers on real performance, prospects, risk and value of the firm that influences the choice of capital structure decision. The sequence of pecking order as stated by Myers (1984) is the choice of internal financing, followed by external financing which debt and lastly equity is financing. Poyry and Maury (2010) mentioned that influential can affect the relative importance of pecking order theory where the firm preferred internal financing which is retained earnings because of no direct cost incurred. Debt financing will be secondary source of fund which have smaller cost than issuing new equity financing due to its floatation cost. Presence of asymmetric information will trigger

the firm to use internal financing over other financing options and least preference to equity financing. Managerial group will receive timely and accurate information about the firm thus the managers will act and make decision on behalf of the shareholders by following the sequence of financing decision.

Shoaib and Yasushi (2015) supported this matter which reduces the conflicts of interest between principal and agent. Pecking order theory suggests that firms need to issue shares with lower than market price if firms choose equity financing over other sources of financing. This indicates that shares issued are overvalued and the management is not confident enough to serve debt obligations. Therefore, issuing new equity shares will give bad signal of the firm. The management is confident enough if the debt financing is used to finance the project where they are able to meet debt obligation and the firm will usually use retained earnings only as an option. Profitable firm will use less debt in financing the project which supported by the previous research conducted by Jibran et. al (2012) which stated that the profitable firm will use the internal fund instead of raising the debt finance when financing the investment. This situation upholds the pecking order theory.

Hewa Wellalage and Locke (2015) investigated the relationship between insider ownership and capital structure of 120 Small Medium Enterprises (SMEs) of New Zealand unlisted firms and found significant inverse u-shaped relationship between them. A higher insider ownership entrenches the management while the lower of that keep them reluctant to align with shareholders' interests, wealth maximization. On the other hand, Xuan-Quang and Zhong-xin (2013) examined the relationship between managerial ownership and capital structure of 300 non-financial State-Owned Enterprises (SOEs) listed on Ho Chi Minh Stock Exchanges and found a negative insignificant impact on capital structure. Agyei and Owusu (2014) also explored the relationship between managerial and institutional ownership with capital structure of manufacturing listed companies from Ghana Stock Exchange and found both managerial and institutional ownership are significantly positively related with capital structure which suggest ownership structure to play an important role in determining financing decisions. In contrast, using non-financial listed companies from Karachi Stock Exchange Butt and Hasan (2009) tested the relationship between managerial and institutional ownership with capital structure and found managerial shareholdings is significantly negatively correlated with capital structure.

Abobakr and Elgiziry (2016) investigated the relationship between ownership structure, namely managerial ownership, institutional ownership, block holders' ownership and governmental ownership and capital structure by using a sample of 36 nonfinancial firms of Egyptian Stock Exchange (EGX) and found a significant positive relationship between institutional and governmental ownership with capital structure. Block holders' is significantly negatively related with capital structure. The results suggest the vital role of ownership structure in financing decisions. Similarly, Ibrahimy and Ahmad (2016) tested the relationship between ownership structure and firm performance to verify the influence of agency problem of nonfinancial firms under Bursa Malaysia and found a significant positive relation between them. On the other hand, Friend and Lang (1988) examined the relationship between managerial ownership and capital structure and found a negative relation between them. Zhang (2013) also explored the relationship between ownership structure, namely concentrated ownership or largest shareholdings, managerial ownership, state ownership and legal person ownership with capital structure of Chinese nonfinancial listed firms and found a significant inverted nonlinear relationship between largest shareholdings and capital structure. This reflects the best level of largest shareholdings indication of Chinese nonfinancial companies. But, there is no significant relationship of managerial shareholdings with capital structure. On contrast, Moh'd et al. (1998) examined the relationship between concentrated ownership and capital structure and found that equity ownership is vital in financing decisions, suggests managerial wealth to be linked with the level of debt of the firm.

3.0 Data and Methodology

Capital structure played an important role in determining the composition between debt and equity financing where other factors are influencing the decision maker to decide the sources of funding available to be used. Misinterpretation of the financing option needed faced by the firm will result in default risk. This study covers 184 observations of 46 manufacturing companies to observe the relationships between capital structure and ownership structure with firm specific characteristics. Secondary data are used which extracted from DataStream database and Annual Reports of the companies in Bursa Malaysia. Purposive sampling is used to gather information where highest market capitalization companies are selected. Data from 2013 to 2016 is employed in the sample based on time constraint and availability of data. Since data is collected from audited financial statements (i.e. annual reports) and authentic database, the consistency, reliability and accuracy of the information are controlled. Dougherty (2006) specified that the choice of the model to best fit the data should be done in a proper way. To determine which estimator should be used to run the model, Hausman Specification Test is performed. The null hypothesis of whether the correlation between independent variables and the error term is zero, we found chi-square statistic is significant at 1% level. Therefore, the rejection of null hypothesis indicates that the fixed effect estimator is consistent and unbiased. Additionally, pooled ordinary least square method also applied to estimate the relationships for comparing the results. The programs used in performing the tests are E-views and Microsoft

Excel. This is a panel data analysis of sample companies using regression equation and the empirical relationships for firm i in the year t are given below:

$$DR_{it} = \beta_0 + \beta_1 MSO_{it} + \beta_2 LARG_{it} + \beta_3 INST_{it} + \beta_4 SIZE_{it} + \beta_5 EARN_{it} + \varepsilon_{it}$$

Where,
DR = Debt Ratio (capital structure variable, measured by total debt to total equity (Agyei and Owusu, 2014); MSO = Managerial Shareholdings, measured by percentage of common shares of executives and non-executives to total shares (Ukaegbu et. al., 2014); LARG = Largest Shareholdings, measured by shares owned by shareholders that have 5% and above of total shares excluding the institutional shareholders (Brailsford et.al., 2002); INST = Institutional Shareholdings, measured by percentage of shares held by institutional companies to total shares (Buttand Hasan, 2009); SIZE = Size of the Firm, measured by logarithm of total number of assets belongs to the firm (Khan and Wasim, 2016); EARN =Earnings, measured by dividing earnings before interest and taxes with total assets (Quang and Xin, 2015).

4.0 Findings and Analyses

This study is conducted to examine the effect of ownership structure against capital structure of Malaysian manufacturing companies based on the agency problem issues existed in this economy. Unlike developed markets, emerging markets are prone to have agency problem between majority and minority shareholders. According to research issues, analyses are discussed using panel data analysis. In addition, descriptive statistics, correlation matrix are also conducted. Descriptive statistics basically measure the location and dispersion of data. Location is measuring the centre of data such as mean, median while the dispersion is measuring the spread of data from its central value such as standard deviation or variance. Mean is calculated by dividing the total sum of observations with the total number of observations. Median is the midpoint of the data extracted. Variance is the variability of observations from the centre value and standard deviation is a square root of variance which shows the likelihood of the observations to its mean value. The more is the deviation from its mean value the more is risky a variable. Skewness and kurtosis are the components in shaping the normality of data set (Pallant, 2005).

Table 4.1 Descriptive Statistics

Variables	Mean	Std. Dev.	Median	Skewness	Kurtosis
DR	0.4162	0.6453	0.1783	3.5965	23.1199
MSO	0.0678	0.1139	0.0076	1.8514	5.5676
LARG	0.5146	0.1620	0.5086	-0.4029	2.9687
INST	0.0625	0.0608	0.0463	0.8561	3.2823
SIZE	14.3167	1.3425	14.4347	0.2665	2.9376
EARN	0.1461	0.1633	0.1181	2.4177	13.5548

Table 4.1 displays descriptive statistics of the variables considered in this study. The dependent variable debt ratio, capital structure variable, is composition of assets and debt in balance sheet of company to handle the business. On average, largest shareholders hold 51.46% of company's shares which is more than half of total ownership stakes of manufacturing companies in Malaysia. The highest (64.53%) standard deviation of debt ratio is showing the variability of debt financing of this economy. The mean value of size is almost equal to its median. The skewness of all series are positive except largest shareholdings indicating that on average the changes of being increased is higher for the specific event to occur than the changes of being decreased which takes place next year. For largest shareholdings, it shows other way. Skewness measures the extent to which a distribution is non-symmetric. On the other hand, kurtosis is measuring the fatness of a tail of a distribution that exhibit positive values for all series indicating non-normality (Pandey, 2001).

Table 4.2 Simple Correlation Coefficients

	MSO	LARG	INST	SIZE	EARN
MSO	1				
LARG	-0.4003***	1			
INST	-0.3187***	-0.0482	1		
SIZE	-0.2653***	-0.0551	0.5826***	1	
EARN	-0.1739**	0.0854	-0.1702**	-0.2946***	1

*** 1% Significance Level ** 5% Significance Level

The purpose of this section is to ensure that all explanatory variables are independent to each other regardless their relation. If the explanatory variables are correlated, it violates one of the Classical Linear Regression Model (CLRM) assumptions which is very serious for regression estimation (Stevens, 2002). The problem arises from the

high correlation between independent variables which is known as multicollinearity problem. According to Gujarati and Porter (2009), multicollinearity problem of regression equation can be tested with correlation matrix. A simple Pearson correlation test (Table 4.2) is performed to see the relationships between independent variables.

It is found that firm's size is positively correlated with institutional shareholdings and negatively correlated with managerial shareholdings at 1% significant level. These variables are correlated by58.26% and 26.53% respectively which are much lower than the benchmark of allowing the relationship of 80% (Gujarati and Porter, 2009). The significant negative correlation between earnings and managerial shareholdings, institutional shareholdings, firm's size are even smaller which does not cause the multicollinearity problem. Managerial shareholdings exhibit negative correlation with largest shareholdings and institutional shareholdings by 40.03% and 31.87% respectively which are also much lower than acceptable cut-off 80%. By combining cross-sectional and time-series data, the extra variations set up by panel data also help to alleviate multicollinearity problem (Brooks, 2008).

Impact of Ownership Structure on Capital Structure

The study used debt ratio, capital structure variable, as dependent variable while ownership structure that consists of managerial shareholdings, largest shareholdings and institutional shareholding are as independent variables with other control variables. Table 4.3 shows the regression results of pooled and fixed effect estimations examining the impact of respective hypotheses on capital structure.

Table 4.3: Pooled and Fixed Panel Effects on Capital Structure (DR)

Variables	Pooled	Fixed
Intercept	-0.6769	4.1604**
MSO	-0.2704	-1.1094
LARG	-0.3072	0.3184
INST	-1.2065	1.7230
SIZE	0.1060**	-0.2345*
EARN	-1.1834***	-3.9940***
R-square	0.1567	0.8931
F-statistic	6.6174***	22.2141***
*Hausman's Specification Test: Chi-square statistic: 27.4380****		

*** 1% Significance Level** 5% Significance Level * 10% Significance Level

While relying on fixed effect estimations, ownership variables are not significantly related by both estimators. The negative Managerial Shareholdings (MSO) relationship with capital structure may due to managerial influence on capital structure decisions in the sample companies selected. This replicates more systematic risk of debt for managing a low debt ratio. This result is supported by Friend and Lang (1988) and Zhang (2013). Both Largest Shareholdings (LARG) and Institutional Shareholdings (INST) are positively related with capital structure by fixed effect estimations. This reflects the role of financing decisions by these shareholdings to issue more debt that reduces the conflicts of interest between managers and shareholders. This finding is supported by Abobakr and Elgiziry (2016) and Moh'd et al.(1998). Firm's size is negatively significant at 10% level by fixed effect estimation which indicates the smaller firms to rely more on leverage compared to bigger firms. Smaller firms tend to use debt financing to finance their project due to unlimited access to capital market and greater asymmetric information thus will expose to higher bankruptcy level (Buvanendra et al., 2017). For both pooled and fixed effect estimators, firm's earnings are negatively correlated at 1% significant level. Therefore, when earnings are higher, companies rely on less borrowing. This finding is in line with Butt and Hasan (2009).Pecking order theory states that profitable firms prefer internal funds to external funds as first option to finance their projects. Besides, the profitable firm will retain its earnings to avoid higher cost of debt.

5.0 Discussion and Conclusion

Capital structure is the leverage ratio that consists of debt and equity financing to ensure firm's operation in the long run. The determinants of the capital structure such as ownership structure, earnings and firm size may affect the capital structure decision. Capital structure decisions involve internal funding, retained earnings, debt financing and equity financing. Shareholders practice their rights such as voting, board meeting and so on to ensure the managerial group is taking action on maximizing their wealth and preferred to have debt financing as a mechanism to control the managerial group. Default in analysing the financing options in terms of cost and benefit from each option will affect the firm performance thus will lead to financial distress due to misinterpretation of the situation faced by the firm. It is useful to know whether the ownership structure will impact the capital structure decision.

The general objective of this study is to examine the relationship between ownership structure on capital structure of manufacturing companies in Malaysia. Findings of the study conclude that there is a negative relationship between managerial shareholdings and capital structure which contradict with much previous research.

This indicates that top market capitalization preferred lower managerial shareholdings in the firm hence the firm will acquire equity financing from public investor than debt financing where the systematic risk of debt to the management is higher than public investor. This result also supports the pecking order theory. According to this theory, internal fund is preferred rather than debt financing and equity financing to maximize shareholders' wealth with the existence of asymmetric information and there is no direct cost incurred in using internal fund. The study also found a positive relationship between largest shareholdings and institutional shareholdings with capital structure by fixed effect estimator where the results are aligned with other previous research.

Future research is recommended to broaden the research into different countries such as Japan, Germany, China and so on since those countries are active participant in manufacturing sector. Therefore, comparison between countries can be measured in term of the variance of the result. Besides, the study also can be broadened into different sectors to measure the variability of the result between different sectors such as construction, service and so on. Furthermore, the independent variables used to measure the impact of ownership structure on capital structure are smaller which in future research can be extended into government shareholdings, foreign shares ownership and family-owned shareholdings.

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