FIRM PERFORMANCE: CASE OF MALAYSIAN LOGISTICS COMPANIES

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ABSTRACT

This study investigates the firm performance of Malaysian logistics companies, measured by four variables of the model which are age firm, size, growth and leverage. For robustness reason, this paper uses two measurements. First measurement is accounting book performance which is Return on Asset (ROA). The second measurement is market-based performance which is Tobin's q. For Tobin's q, all variables are shown as non-statistically significant in the baseline model, with only leverage and size are showing positive association with q, while age and growth show negative association with q. On the other hand, only age firm shows a negative association with ROA. The findings indicate that the results for both Tobin's q and ROA show a slight dissimilarity in terms of the sign of association where the variables are seen as having more positive relationship when tested with ROA compared with Tobin's q.

Keywords: ROA, Tobin's q, Firm Performance, Listed Firms, Malaysia.

INTRODUCTION

There are number of theories on the capital structure and its relationship on firm performance. In this case, Modigliani-Miller (MM) theory could be considered as the foundation theory which stated that the firm value is not affected by its capital structure, which specifies that in the firm's value would appear to be independent of its capital structure in the non-existent of bankruptcy costs, transaction costs, asymmetric information or taxes (Modigliani & Miller, 1958). Nevertheless, this theory is revolved around limited assumptions of a perfect capital market that does not present in the current world. In order to fill in the voids of MM theory, three main theories are suggested, namely the trade-off theory, pecking order theory and agency theory. In other words, these theories intended to explain factors that influence the utilization of internal funds (i.e., profits) and external funds (i.e., debt and equity) in corporate financing. Trade-off theory suggested that the trade-off between the debt causing by tax benefits and the bankruptcy cost resulting the disproportionate appeal to debt help determine the optimal capital structure (Detthamrong et al., 2017). The pecking order theory, later on indicates that firms should follow a financing associated ranking. It promotes the appeal to internal rather than external resources and secure rather than unsecure securities (Mukhopadhyay & Chakraborty, 2017). On the other hand, the pecking order theory retain that a firm has no particular leverage ratio likely to maximize its value and that the leverage choice of leverage is the consequent of the information asymmetry prevailing in the market (Louhichi & Boujelbene, 2016). Concerning agency theory, it presents that an optimal capital structure may be decided by a slashing of costs emerging from agency problems arising between shareholders on one side and among shareholders and managers on the opposite (Shukeri et al., 2012). The idea of the theory holds in minimizing the costs related with the detachment of ownership and control.

Taking the current situation, although many studies have been conducted in other countries, there are very few study conducted with Malaysian case, especially when taking into account the logistics sector, since most of studies found are clustered around the financial sector. Therefore, this study is intended in providing an insight into the relationship between capital structure and firm performance in a typical corporate market. In addition, it provides evidence for testing the validity of financial theories in explaining the relationship between capital structure and firm performance in a transition and developing country like Malaysia.

DATA

In order to measure the firm performance of the logistics companies, a data search was conducted using Bloomberg Database and each company's annual report. From the data search, 12 companies are shortlisted. Firms with incomplete data are removed from the list, thus leading to only 8 companies. All companies incorporated in the study are Malaysian listed companies traded in exchanges and having complete data for the period of 2010 to 2016; which include the shipping companies, port authority and freight providers.

METHODOLOGY

Two measures for firm performance were used: the first one is ROA which is based on studies by Azlina et al. (2017); Lim et al. (2018); and Tobin's q, which is based on studies of Gyan et al. (2017). While Tobin's q was used to capture the firm's market performance, ROA is employed for presenting accounting performance. The Tobin's q indicator was calculated as the firm's market value to book value. The firm's market value contains the market value of debt and market value of equity. The market value of debt can be considered the book value, while the current market capitalisation of equity was used as the market value of equity. ROA was calculated by dividing earnings after interest and tax into total assets.

Baseline Model

The firm performance is determined using the function of firm age, firm size (measured by natural logarithm of total assets), firm growth (measured by the ratio of capital expenditure on operating income) and firm leverage (measured by the ratio of total debt to total assets). The equation is formed by referring to the study done by Gyan et al. (2017). The function is as follows:

$$\textbf{Performance}=f(\text{age, size, growth, leverage}) \quad (1)$$

To estimate the above relation empirically, all sample firms are pooled and the following regression equation is estimated:

$$\textbf{Performance}_{i,t}=\alpha_0+\beta_1 AGE_{i,t}+\beta_2 SIZE_{i,t}+\beta_3 GROWTH_{i,t}+\beta_4 LEV_{i,t}+\varepsilon_{i,t} \quad (2)$$

Where, AGE denotes as the firm age (the number of years since inception of the firm to the time data is collected), SIZE denotes as firm size, GROWTH is firm growth and LEV is firm leverage.

RESULTS

Estimation of Firm Performance

Table 1 shows the estimation for variables that form the baseline model with Tobin's q as a performance proxy. Overall, all variables are not statistically significant in the baseline model, with leverage and size are showing positive association with q, while age and growth show negative association with q. The R^2 of the model is 0.93567 and adjusted R^2 is reportedly at 0.90351 which interpret that the data of the model are relatively fitted to the regression line.

Table 1
FIRM PERFORMANCE USING TOBIN'S Q

Constant	8.0867*(0.0085)
Growth	-0.0207 (0.1051)
Leverage	0.02673 (0.1149)
Age	-0.0700 (0.4423)
Size	0.26813 (0.6364)
Observation	8
R^2	0.93567
Adjusted R^2	0.90351

Note: These model estimates the baseline model where the performance is measured by Tobin's Q. The regression is then performed using regression analysis. Period of data ranges from 2010 to 2016. The coefficient values are stated in figures while the standard errors are stated in the figures in parentheses. *denotes the level of significances of 10% respectively.

To attest to the robustness of the findings of this paper, the variables are then estimated using Return on Asset (ROA) as a performance proxy. The results show quite a different outcome compared to Tobin's q, where only age shows a negative association with ROA. Similarly, all variables are also not statistically significant in the baseline model; as well as both R^2 and adjusted R^2 are considered robust with the values of 0.9180 and 0.8770.

Table 2
FIRM PERFORMANCE USING ROA

Constant	8.0867*(0.0027)
Growth	0.0389 (0.0342)
Leverage	0.0503 (0.0288)
Age	-0.0373 (0.0558)
Size	0.0072 (0.1439)
Observation	8
R^2	0.9180
Adjusted R^2	0.8770

Note: These model estimates the baseline model where the performance is measured by ROA. The regression is then performed using regression analysis. Period of data ranges from 2010 to 2016. The coefficient values are stated in figures while the standard errors are stated in the figures in parentheses. *denotes the level of significances of 10% respectively.

DISCUSSION

This study uses Return on Asset (ROA) and Tobin's q as proxy for the measurement of performance. The paper extends the previous work by investigating the moderating role of efficiency in the inconsistency prevailing in diversification and performance association. Based on the findings, it can be shown that the results for both Tobin's q and ROA show a slight dissimilarity in terms of the sign of association where the variables are seen as having more positive relationship when tested with ROA compared with Tobin's q. Overall, all variables are found as not having statistical significance, however both models could be considered as robust by perceiving at the values of R^2 and adjusted R^2. Meanwhile the results further show that the role of both Tobin's q and ROA as the proxies has a bearing on firm performance among firms in Malaysia. Consequently, the positive and significant association implies that, if a firm is efficient, its performance increases and if a firm is not efficient, its performance is likely to decrease.

The estimated coefficients of growth rate are positive, albeit not statistically significant; indicating that firms with higher growth opportunities can enhance their performance measured by ROA. The result is consistent with the studies of Bennett et al. (2017) which argued that firms with high growth rate are able to create more profit and value from investment opportunities. The coefficient estimates of leverage are positive in both models, suggesting that borrowed capital for an investment is an important factor affecting firm performance. This result is in line with the studies of Pillai & Al-Malkawi (2017); Tam & Tan (2007) which believe that financial leverage has a positive effect on the firm's return on equity given the earning powers of the firm's assets is greater than the average interest cost of debt to the firm. On the other hand, the coefficients of the firm age factor are shown as negative in both ROA and Tobin's q model. The explanation could lie in Loderer & Waelchli (2018) which argued that corporate aging could reflect a cementation of organizational rigidities over time. Consistent with that, costs rise, growth slows, assets become obsolete and investment and R&D activities decline. Also, Coad et al. (2018) stated that older age could advance the diffusion of rent-seeking behaviour inside the firm.

As mentioned in the introduction part, there is no single theory that could unify the effect of capital structure on firm performance. One of the reasons is due to the real society that is interconnected and diversified, rather than the theories that are based on many critical assumptions. Le & Phan (2017) stated that the theorists are detached with the multicultural nature of society and tradition. Moreover, most finance researchers are constrained on the functionalist paradigm, meanwhile each paradigm such as functionalist, interpretive, radical humanist or radical structuralist leads to distinctive research approach, thus generates distinguished understandings (Le & Phan, 2017). Specifically, the effect of capital structure on firm value could change significantly in different contexts or the statements of the traditional capital structure theories could become controversial under different conditions.

This study provided evidence of capital structure positively affecting firm performance. Specifically, when testing the linear relation between leverage and firm performance, the finding indicates that all ratios of long-term debt, short-term debt and total debt in both book and market value are positively related to ROA and Tobin's q. This outcome is consistent with the research of Upadhyay (2017) in the context of emerging markets; and in accordance with most studies conducted in developed countries, which posit a positive relationship between capital structure and firm performance. This may be due to the stage of development and transition that Malaysia is currently at; but suggest that similar findings may be for similar countries in transition or in economic transition.

Consequently, it also shows a positive relationship between firm performance and leverage in low-growth firms; aligning with the notion that a firm performance is negatively associated to leverage for those with high growth. A reasonable explanation is that a positive effect appears in firms with fewer growth opportunities because an increase in debt prevents managers from investing in unprofitable projects or reduces the overinvestment problem. Similarly, in high-growth-opportunity firms, there is a negative effect of debt on firm performance because an increase in debt forces managers to forego profitable projects or increase the underinvestment issue. In contrast, high-growth firms are common in fast-growing countries (Le & Phan, 2017); and Malaysia is one of the world's highest growth rate countries (Vithessonthi, 2016). Therefore, a negative relationship may exist between capital structure and firm performance in Malaysian firms.

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