

CAPITAL STRUCTURE AND ENERGY FIRMS' PERFORMANCE IN MALAYSIA

Hamidah Ramlan
Dr. Noriza Mohd Saad
Nor Edi Mohamad
Associate Prof. Dr.
Mohd Nizal Haniff

*Finance & Economics Department,
College of Business and Accounting
Universiti Tenaga Nasional,
26700 Muadzam Shah, Pahang
Faculty of Accounting
Universiti Teknologi Mara
Shah Alam, Selangor*

Abstract

The objective of the study is to scrutinize an association between capital structure and energy firm's performance in Malaysia. The data collected and retrieved from the energy company cover from period of 2005 to 2017 which are gathered from www.bursamalaysia.com, Bloomberg and Thomson Data Stream. Throughout, this study uses multivariate regressions to run the entire dependent variables for energy firms' performance with its independent variables. In overall, the results are show that there are a statistically significant relationship between the capital structure and energy firm's performance.

Keywords: *capital structure; energy; performance.*

1. Introduction

Company's financial structure is a major factor in the successful management of the enterprise, but its growth rate may also influence its long-term future development as represented by ROA (Chang , 2012). In the capital structure, its normally consist of debt and equity that funded the business management. Debt leverage is an efficient way to reduce free cash flows and enhance firm performance (Park and Jang, 2013). Park & Jang (2013) revealed a positive influence on firm performance by debt leverage; however, Anderson & Nyberg (2011) have an inverse argument that leverage is negatively related to growth and profitability performance. Therefore, the objective of the study are; (1) to analyze the current status of capital structure among energy firms in Malaysia, (2) to examine the relationship between the long-term capital structure with firms' performance, and (3) to investigate the relationship between the long-term capital structure with firms' performance.

These objectives motivated the study to explore the relationship between capital structure with energy's firm performance in Malaysia since its still under-research

focused on long-term and short-term debt. Besides, this types of capital structure is heavily rely by energy firms that demanded for huge capital in financing their project. The reminder of the paper is organized as follows. Section II discussed on the past studies that lead for hypotheses development. Then, section III explains on data and methodology and then proceeds with the results and discussion in section IV. Lastly, section V concludes.

2. PAST STUDIES AND HYPOTHESES DEVELOPMENT

The different finding in terms of capital structure was discussed by many researchers. For instance, Wan Mansor and Rozimah (2007) over the period 1996 to 2003 found that the results from the regression analysis indicate that capital gearing is negatively related with net profit margins and price earnings ratio for both property and construction sectors. The findings show unequal business relationship with regards to debt and profit even though their business is very interrelated. The methods that they used are descriptive statistics, correlation coefficient and regression. Another study by Hatfield, Cheng, and Davidson (1994) investigated the leverage performance over a period 1982 to 1987 found that market does not appear to consider the relationship between a firm's leverage ratio and the industry's leverage ratio important. This finding is consistent with the pioneer studied by Modigliani and Miller (1958) about the proposition that financial leverage is irrelevant to the value of the firm. Further research that employs additional leverage ratios and alternate industry classifications will provide additional evidence and insight into this problem.

Le and Phan (2017) studied on the capital structure with firm's performance in Vietnam posit a positive relationship between capital structure and firm performance; however, it is consistent with some studies in the context of developing markets. They argued that in typical developing market like Vietnam, the benefits of debt from tax saving maybe less than financial distress cost. Furthermore Sharma claimed that the stability of corporate capital structure in a sample of listed Indian firms for the period 1988–2015 is depend on period, long and short term. He mentioned that in general, the firms do not maintain a stable level of leverage over long durations. The firm specific temporal variations in leverage are large and significant. We find that capital structure models that incorporate time varying firm effects perform better in explaining the variation in leverage than those that employ time invariant firm effects. The cross-sectional distribution of leverage also exhibits considerable variations over time.

Lovisuth, Fairchild and Rathinasamy (2009) had utilizing a sample of 223 non-financial Thailand firms over a period an 8-year period from 1997-2004, indicated the relationship between capital structure (debt-versus-equity choice) and market power or product differentiation using Ordinary Least Squares (OLS) and by two way fixed effects models of regressions. The results show a non-linear relationship between capital structure and market power. Specifically, the relationship of total debt and short-term debt is U-shaped, and inverted U-shaped with regard to long-term debt. Interpret these results to mean that to two opposing limited liability and predation effects lead to these observed non-linear relationships.

Research done by Nik Ahmad (2008) seeks to chart the performance of the G-20 over an eleven-year period extending from 1996 to 2006. The alleged poor performance of the government linked companies had resulted in widespread public criticism and dissatisfaction and triggered calls by the Malaysian Government for reform of the government linked companies. A comparison of the G-20 with their non- government linked companies competitors matched by size and industry sector further reveals that a number of the G-20 firms are actually performing better than their non-government linked companies competitors, particularly on the output measure. However, the results are mixed, indicating no real evidence that government linked companies is necessarily

performing better or worse than their non-government linked companies' competitors. A pre and post privatisation comparison may also be undertaken to investigate the possible influences of privatisation on performance. A comparison between the whole population of government linked companies and their non-government linked companies competitors would also provide valuable information for purposes of benchmarking performance of government linked companies.

According to Prasetyantoko (2006) found a leverage is negatively related to fundamental firm value, but it is positively related to market value of the firms. It seems that market value of the firms does not consider much the level of the corporate leverage, whereas profitability is negatively affected. In post-crisis, market capitalization do not relate with leverage. Contradicted with Park (2006), has investigated the relationship between structure and performance in the Korean banking sector. Banks with higher market share, greater net interest margin, less operating cost per employee or branch, more assets per employee or branch, less allocative inefficiency measured by a distance function, higher equity capital ratio and less non-performing loans share are found to be more profitable, while market concentration measured by the Herfindal index and classification as a nationwide bank are found to be not important variables in explaining bank profitability.

Then, Bandyopadhyay and Barua (2016) investigate the linkage of corporate sector performance with the capital structure and macroeconomic environment. Using a balanced panel data of 1594 Indian corporate firms over 14years (1998 to 2011), they found that an empirical evidence to support the hypotheses relating to the relevance of asymmetric information, agency cost, trade off theory, signaling and liquidity aspects in determining firm's capital structure decisions in emerging market economy. It is found that macroeconomic cycle significantly influences corporate financing decisions and hence performance. The endogeneity between capital structure and corporate performance has also been resolved through a two-step dynamic panel generalized method of moments (GMM). The study suggests that the performance of any company hinges around its ability to operate on a capital structure.

Next, Jandik and Makhija (2004) stated that significant increases in the level of target leverage have been previously documented, following unsuccessful takeover attempts. This increased leverage may signal managerial commitment to improved performance, suggesting that corporate performance and leverage should be positively related. If, however, the increased leverage leads to further managerial entrenchment, then corporate performance and leverage should be negatively related. Then, Jandik and Makhija (2004) reexamine both motivations for the observed increase in leverage. Furthermore, they argue that changes in the composition of debt are also important, besides changes in the level of leverage. As a result, they find a more complex relation between corporate performance and debt use. Overall, the relation between corporate performance and leverage is negative, as predicted by a dominant entrenchment effect.

According to Ooi (1999), the determinants of capital structure Evidence on UK property companies; employing the panel data methodology, he examines the capital structure determinants of 83 property companies quoted in the UK. The empirical test reveals how the debt-equity structure of the companies is influenced by the various firm-specific attributes and macro-economic factors. In particular, the evidence shows that asset structure, business orientation, and the level of involvement in property development are significant determinants of the corporate debt policy of property companies. Gleason, Knowles Mathur and Ike Mathur (2000) generally accepted that variables other than capital structure also influence corporate performance. Using data from retailers in 14 European countries, which are grouped into four cultural clusters, it is shown that capital structures for retailers vary by cultural clusters.

Therefore, from the issue raised by previous study, the hypotheses developed for the study are as follows:

Hypothesis 1:-

Ho: There is no relationship between ROA and capital structure for long-term and short-term debt.

Ha: There is a relationship between ROA and capital structure for long-term and short-term debt.

Hypothesis 2:-

Ho: There is no relationship between EPS and capital structure for long-term and short-term debt.

Ha: There is a relationship between EPS and capital structure for long-term and short-term debt.

Hypothesis 3:-

Ho: There is no relationship between ROC and capital structure for long-term and short-term debt.

Ha: There is a relationship between ROC and capital structure for long-term and short-term debt.

3. DATA AND METHODOLOGY

The objective of this study is to investigate the relationship between capital structure either in long-term or short-term with energy firm's performance. The sample size in this study consists of 30 public listed energy companies in Bursa Malaysia covers for a period from 2005 to 2017 on an annual basis. The data collected from Thomson Reuters, companies' annual report, and central bank and Bloomberg software. In this study, there are two main variables, and the proxies that represent the both variables as shown in table 1 below:

TABLE 1: DEPENDENT AND INDEPENDENT VARIABLES

Variables	Proxies
Dependent <ul style="list-style-type: none"> Energy Firm's Performance 	<ul style="list-style-type: none"> Return On Asset (ROA) Earnings per share (EPS) Return on Capital (ROC)
Independent <ul style="list-style-type: none"> Capital Structure 	<ul style="list-style-type: none"> Debt to Equity Ratio (TD/TE) Total Equity (TE) Short and Long Term Debt (SLTD)

This research study is tested the relationship between energy firms' performance and capital structure, thus, multiple regression model applied. The multiple regression equations can be represented as follows:

$$ROA_i = \alpha + \beta_1(TD / TE_i) + \beta_2(TE_i) + \beta_3(SLTD_i) + \varepsilon_i \dots\dots(eq.1)$$

$$EPS_i = \alpha + \beta_1(TD / TE_i) + \beta_2(TE_i) + \beta_3(SLTD_i) + \varepsilon_i \dots\dots(eq.2)$$

$$ROC_i = \alpha + \beta_1(TD / TE_i) + \beta_2(TE_i) + \beta_3(SLTD_i) + \varepsilon_i \dots\dots(eq.3)$$

4. RESULTS AND DISCUSSION

Multivariate regression was used to analyse between each independent variable (Debt to Equity Ratio, Total Equity, Short and Long Term Debt with dependant variable (Return On Asset, Earnings per share , Return on Capital. This study was tested with significant value $\alpha=0.05$.

The Relationship between Debt To Equity Ratio, Total Equity, Short And Long Term Debt With Return On Asset.

Table 2: ANOVA showing the relationship between debt to equity ratio, total equity, short and long term debt with return on asset.

ANOVAa

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.576	3	1.859	8.353	.000 ^b
Residual	28.039	126	.223		
Total	33.615	129			

a. Dependent Variable: ROA

b. Predictors: (Constant), SLTD, TE, TTDTE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Sig. F Change	
					of R Square Change	F Change	df1		df2
1	.407 ^a	.166	.146	0.47173	0.166	8.353	3	126	.000

a. Predictors: (Constant), SLTD, TE, TTDTE

Refer to the table 02, p value=0.000. Since p value =0.000 < 0.05, it was found there are have significant in between Debt to Equity Ratio, Total Equity, Short and Long Term Debt with Return On Asset. However, correlation r=0.407 indicating still have relationship but not strong. Based on r square =0.146, only 14.6% percent of the amount of variation in Return On Asset can be a attributed to Debt to Equity Ratio, Total Equity, Short and Long Term Debt.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Beta	Lower Bound
(Constant)	-.911	.191		-4.766	.000	-1.289	-.533
TTDTE	-.772	.191	-.882	-4.036	.000	-1.150	-.393
TE	.595	.122	.850	4.868	.000	.353	.837
SLTD	.831	.420	.261	1.979	.050	.000	1.661

a. Dependent Variable: ROA

Refer to the table 02, p value=0.000 and p value =0.05. Since p value =0.000 ≤ 0.05, it was found that Debt to Equity Ratio, Total Equity, Short and Long Term Debt are positively related to Return On Asset. The result supported by Le and Phan (2017).

The Relationship Between Debt To Equity Ratio, Total Equity, Short And Long Term Debt With Return On Equity

Table 03: ANOVA showing the relationship between Debt to Equity Ratio, Total Equity, Short and Long Term Debt with Return On Equity.

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.053	3	.018	6.310	.001 ^b
Residual	.353	126	.003		
Total	.406	129			

a. Dependent Variable: ROE

b. Predictors: (Constant), SLTD, TE, TTDTE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Sig. F Change	
					Square F	Change	df1		
1	.361 ^a	.131	.110	.05293	.131	6.310	3	126	.001

a. Predictors: (Constant), SLTD, TE, TTDTE

Refer to the table 03, p value=0.000. Since p value =0.001 < 0.05, it was found there are have significant in between Debt to Equity Ratio, Total Equity, Short and Long Term

Debt with Return On Equity. However, correlation $r=0.361$ indicating still have relationship but not strong. Based on r square $=0.131$, only 13.1% percent of the amount of variation in Return On Equity can be attributed to Debt to Equity Ratio, Total Equity, Short and Long Term Debt.

Coefficients^a

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
						Lower Bound	Upper Bound
1 (Constant)	-.008	.021		-.375	.708	-.050	.034
TTDTE	-.086	.021	-.898	-4.024	.000	-.129	-.044
TE	.037	.014	.475	2.667	.009	.009	.064
SLTD	.104	.047	.297	2.208	.029	.011	.197

a. Dependent Variable: ROE

Refer to the table 03, p value $=0.000$. Since p value $=0.000 < 0.05$, it was found that Debt to Equity Ratio are positively related to Return On Equity. While for Total Equity, p value $= 0.009 < 0.05$, there are positively related to Return On Equity. A Short and Long Term Debt, p value $= 0.029 < 0.05$, there are positively related to Return On Equity. The result supported by Bandyopadhyay and Barua (2016).

The Relationship between Debt to Equity Ratio, Total Equity, Short And Long Term Debt With Earning Per Share

Table 04: ANOVA showing the relationship between Debt to Equity Ratio, Total Equity, Short and Long Term Debt with Earning per Share.

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1.215	3	.405	2.394	.072 ^b
Residual	17.933	106	.169		
Total	19.148	109			

a. Dependent Variable: EPS

b. Predictors: (Constant), SLTD, TE, TTDTE

Model Summary

Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics			Sig. F Change		
				Change	Change	df1			
1	.252 ^a	.063	.037	.41131	.063	2.394	3	106	.072

a. Predictors: (Constant), SLTD, TE, TTDTE

Refer to the table 04, p value=0.000. Since p value =0.072 > 0.05, it was found there are have not significant in between Debt to Equity Ratio, Total Equity, Short and Long Term Debt with Earning Per Share. However, correlation $r=0.252$ indicating still have relationship but not strong. Based on r square =0.063, only 6.3% percent of the amount of variation in Earning Per Share can be a attributed to Debt to Equity Ratio, Total Equity, Short and Long Term Debt.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
1 (Constant)	.368	.213		1.730	.087	-.054	.790
TTDTE	-.245	.201	-.328	-1.215	.227	-.644	.154
TE	-.026	.137	-.042	-.188	.851	-.297	.246
SLTD	.583	.395	.217	1.476	.143	-.200	1.366

a. Dependent Variable: EPS

Refer to the table 04, p value=0.087. Since p value =0.227 > 0.05, it was found that Debt to Equity Ratio are no relationship to Earning Per Share. While for Total Equity, p value = 0.851 > 0.05, there are no relationship to Earning Per Share. Lastly for Short and Long Term Debt, p value = 0.143 > 0.05, there are no relationship to Earning Per Share

5. CONCLUSION

The study concluded that capital structure as proxies by long-term and short term debt have a significant relationship with energy's firm performance proxies by ROA and ROE but not in EPS. It was explaining that by issuing long-term and short-term debt in firm's capital structure owned by the energy firms could be significantly contribute to the profitability performance in Malaysia. However, there is no relationship between these debts in the capital structure with the level of earning distributed to the shareholders as represented by EPS. Thus, from the findings, it can provide a reference to energy firms and stakeholders to predict the impact of permissible return (yields) to them since this study revealed a new knowledge on the relationship of short-term and long-term of capital structure towards energy sectors which is still under research in Malaysia. As a recommendations, the outcome of the study should be able to be applied as a guideline by firms especially those who have issued debt security and the firms who have intended to issue short term or long term debt towards profitability and the change of capital structure. From the energy based investors, analysts and fund managers' perspective, this study will help to value add their investment decisions on the firms under scrutiny. As well, from the regulators point of view, such as BNM and Securities Commission, the study will be able to help them to monitor the development of debt security as represented by level of capital structure in Malaysia, more importantly to take necessary action on the current regulation as to ensure the country's capital market would be able to be elevated into a higher level.

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