DETERMINANTS OF LONG-TERM FINANCING DECISIONS: AN EMPIRICAL INVESTIGATION ON THE OIL AND GAS FIRMS IN MALAYSIA

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ABSTRACT

The financing decision is the most vital decision that a firm takes as it affects the firm value and shareholders' wealth. While the main contributions of past studies on financing decision come from developed countries, the same issues are of equal concern for developing countries, and no exemption to Malaysia. Therefore, the main purpose of this study is to investigate the influence of determinants of long-term financing among the oil and gas firms in Malaysia. The study adopts the pooled OLS, fixed effect, and random effect regression analysis and employs 28 oil and gas firms listed on Bursa Malaysia over the period of 2008 – 2017. The findings reveal that asset tangibility is the only determinant that consistently shows a significant impact on the significant effect on the long-term borrowing decision while other determinants remain insignificant across the three models. This reiterates the fact that fixed asset requirement remains as the fundamental requirement for the oil and gas firms, especially when raising their financial leverage. This offers a new lens of understanding in the literature of financing decisions from the perspective of the energy sector.

INTRODUCTION

The topic of financing decisions has been the focus of attention to both academic research and business practice. Financing decisions or borrowing decisions are often used interchangeably. A firm can finance its business by issuing debt or equity or a combination of both securities. The mixture of both debt and equity is known as capital structure. As the firm's capital structure decision has a direct effect on the firm's value and shareholders' wealth, therefore, the financing decision has become important as it will determine the success or failure of the firm. However, the study on the influence of the determinants of long-term borrowing remains inconclusive and debatable. Studies have reported a wide variation of results but failed to achieve consensus, especially the influence of the determinants of long-term borrowing that is specific to the firm characteristics. This makes the firm's financing decision not clearly understood.

Recently, many studies have been conducted on a specific type of firm based on the nature of the business. This is because few studies (Taddese & Negash, 2013; Tse & Rodgers, 2014; Ullah, Siddiqui & Tashfeen, 2017; Yildirim, Masih & Bacha, 2018) revealed that each type of firm based on the nature of the business had a different financing decision. Despite the detailed findings, little is known from the perspective of oil & gas firms. In addition, the results of these studies failed to achieve consensus although the studies had been conducted specifically on oil & gas firms by employing different time points, measurements of variables, and methods, making it not clearly understood. Therefore, the capital structure theory from the oil & gas firms' perspective,

which would explain the financing decision of oil & gas firms, has not been reached yet. Moreover, many researchers (Althaqeb, 2017; Chakrabarti & Chakrabarti, 2019) have concluded that more studies are needed in the area of oil & gas firms.

Admittedly, different types of firms have different financing decisions. However, there are still a considerable amount of studies that were conducted by integrating several types of firms. Some studies (Abdul Hadi et al, 2018; Jarallah, Saleh & Salim, 2019), included all types of firms as indicators to study of the financing decision. However, one key factor that distinguishes oil & gas firms from non-oil & gas firms is that the oil & gas firms work under an unpredictable environment where it requires a constant refocus for the firm to remain relevant. Due to this reason, it is expected that oil & gas firms exhibit different financing decisions as compared to non-oil & gas firms. Therefore, the objective of this study is to investigate the impact of determinants on long-term borrowing decisions among oil & gas firms in Malaysia.

OVERVIEW OF OIL AND GAS FIRMS

Today, oil & gas firms are not only becoming a central concern to the development of developed countries but also developing countries. Oil & gas firms themselves contribute to wealth through dividend and corporate income tax payments that account for about 20-30 percent of Malaysia's gross domestic product (GDP). In fact, there are more than 3000 oil & gas firms operate in Malaysia, comprising both local and international firms. As the number of oil & gas firms continues to expand, it has undoubtedly created numerous job opportunities.

In addition, oil and gas firms have a significant presence of government ownership (Chakrabarti & Chakrabarti, 2019). The government, as the shareholder has other reasons to own a firm apart from wealth maximization. In fact, firms with government ownership are even sometimes required by the governments to achieve their goal to develop the country. Among others is to reduce the unemployment rate, increase tax collection, and to stabilize the financial system (Borisova et al., 2012; Li, Yue & Zhao, 2009). Therefore, oil & gas firms play an important role in helping the government to build the nation through economic development.

However, oil & gas prices are unpredictable (Geng, Ji & Fan, 2017; Mitchell & Mitchell, 2014), and firms have no control over their product prices. As oil & gas firms exist in an unpredictable environment, cost minimization becomes a critical factor for oil & gas firms to compete effectively (Del Sala, 2015; Rawl, 1987). Therefore, the financing decision should be carefully planned to ensure that optimal decisions are made to increase the firm's value and shareholders' wealth. In addition, this helps to ensure the firms sustain in the long-run and to avoid the firm going bankrupt due to the overburden of debt or improper financing decision (Chadha & Sharma, 2015).

LITERATURE REVIEW

Deciding the capital structure between debt and equity is not an easy decision. This is because a wrong financing decision will not only lead to the financial distress of the firm but eventually to bankruptcy (Ahmed Sheikh & Wang, 2011; Chadha & Sharma, 2015). Thus, the development of capital structure theories has shed some light on explaining how firms make their financing decision. However, the introduction of the Modigliani-Miller (MM) theory in the year 1958 has sparked an argument among researchers and had cause several criticisms. Since then, various theories of capital structure have been developed. Among them, two competing theories of capital structure, Trade-off and Pecking Order theory were identified as the most dominant theories in explaining financing decisions (Haron, 2014; Tse & Rodgers, 2014) as these theories were repeatedly identified in the literature review.

The Trade-off Theory (TOT) explained that the optimal capital structure could be achieved when the benefit of debt is equal to the cost of debt. Therefore, this theory describes that firms will seek a debt level

that will balance the benefits of the debt and the cost of debt. On the other hand, the Pecking Order Theory (POT) portrayed that firms have preferred order source of funds to finance the operation and growth. The order starts with retained earnings, and in the absence of it, the firm will borrow and lastly issue equity as a last resort. The order of the source of funds interpreted that firms with high profit will have less debt in their capital structure. These two theories have a contradictory prediction toward financing decisions.

However, none of the capital structure theories that has been developed is able to provide an overall understanding of how firms made financing decisions (Allini et al., 2018; Chadha & Sharma, 2015; Myers, 2001). Despite that, these theories do provide some understanding in terms of how firms make a financing decision. Therefore, it is undeniable that a mixture of capital structure theories is important to explain the firm's financing decision. Furthermore, the theories enable researchers to understand in terms of how firms make financing decisions and understand how it may affect the firms' value and shareholders' wealth.

Debt

Empirical literature (Ahmad & Wan Aris, 2015; Ting & Lean, 2011; Vo, 2017) had found that the influence of the determinants varies according to the debt term, their studies tend to employ the total debt, long-term debt, and short-term debt as dependent variables. These three different ratios are widely used to get a better insight into the capital structure decision. However, in this study, we only consider long-term debt (LTD) as a measure of the debt level. The rising of a large amount of long-term debt (Sanzillo & Williams-derry, 2018) shows that oil and gas firms heavily depend on long-term debt as the main financing source. It can be measured by taking total long-term debt divided by total assets.

Determinants of Leverage

The standards determinants that are reliable in explaining the borrowing decision are profitability, asset tangibility, growth opportunities, liquidity, non-debt tax shield (NDTS), and earnings volatility. In short, these are the determinants that are repeatedly identified revolving around the body of literature. Thus, these determinants appear to be important and influence the firm's financing decision.

Profitability

Profitability is one of the most important determinants of debt borrowing. From the Trade-off theory perspective, highly profitable firms should increase their debt as interest on debt is tax-deductible, hence increase the firm's value. Therefore, profitability positively influences the debt borrowing. In addition, highly profitable firms can borrow more debt as they have a lower bankruptcy risk (Sakr & Bedeir, 2019). Contrary to the Trade-Off Theory, the Pecking Order theory predicts that profitable firms should borrow less. This is because profitable firms tend to select retained earnings as their first option while debt will be included when the need for funding is higher than available retained earnings. Most of the empirical studies Jarallah et al. (2019), Goh et al. (2018), Matias & Serrasqueiro (2017) and Ahmad & Wan Aris (2015) have reported that profitability is negatively influenced debt level. Profitability is measured by the ratio of earnings before interest and tax divided by total assets (Booth et al., 2001; Khémiri & Noubbigh, 2018).

Hypothesis 1: Profitability negatively impacts on long-term debt

Asset Tangibility

According to Trade-Off theory, asset tangibility positively influences the debt borrowing, suggesting that the more tangible assets owned by the firm, the higher the firm can borrow debt. This is because tangible assets can be used as collateral. Thus, creditors will feel confident that the firm will be able to meet the debt obligation and at the same time able to reduce the cost of bankruptcy. On the other hand, according to the Pecking Order theory, assets tangibility negatively influence debt borrowing. This is because a large amount of tangible assets indicates that the firm owns a large amount of cash flow. Therefore, it has a low requirement for debt borrowing. Dakua (2019) and Li & Stathis (2017) reported asset

tangibility negatively influenced debt borrowing. While Ramli, Latan, & Solovida (2019), Chakrabarti & Chakrabarti (2019) and Chadha & Sharma (2015) reported inverse results where the assets tangibility positively influenced debt levels as per Trade-Off theory. Tangibility is measured by the ratio of total fixed assets divided by total assets (Chakrabarti & Chakrabarti, 2019; Jermias & Yigit, 2019).

Hypothesis 2: Assets tangibility positively impacts long-term debt

Growth Opportunities

Based on the Pecking Order theory, growth opportunities positively influence debt borrowing. This is because firms in the growing stage have not enough internal funds. The firm might lose the opportunity to grow if there are no external funds to support. Furthermore, as equity is costlier than debt; hence, debt is preferable. While according to Trade-Off theory, growth opportunities negatively influence debt borrowing. This is because growing firms require debt and at the same time by issuing more debt will increase financial distress cost. (Ramli et al., 2019) reported growth opportunities positively influenced debt levels. While (Chadha & Sharma, 2015) found that growth opportunities negatively influence debt levels. Growth opportunities are measured by the percentage change in total assets (changes in total assets between time t and t – 1 divided by total assets at time t – 1) (Ahmad & Wan Aris, 2015; Khémiri & Noubbigh, 2018).

Hypothesis 3: Growth opportunities positively impact long-term debt

Liquidity

According to the trade-off theory, liquidity positively influences debt borrowing. This is because firms with high liquidity can issue more debt as the firms are able to meet their obligation by liquidating their assets when facing financial distress. However, the Pecking Order theory has a different prediction about liquidity. Liquidity is negatively influencing debt borrowing. Pecking Order theory emphasizes the use of retained earnings, although they have a highly liquid asset. This is because, whenever the firms require immediate cash, they can liquidate their assets to fulfil the need. Negative results is consistent with several studies (Ahmad & Wan Aris, 2015; Chakrabarti & Chakrabarti, 2019; Goh, et al., 2018; Ullah, et al., 2017). While Dakua (2019) found that liquidity positively influenced debt levels, liquidity is measured by the ratio of total current assets divided by current liabilities (Ahmad & Wan Aris, 2015; Gómez et al. (2014).

Hypothesis 4: Liquidity negatively impacts long-term debt.

Non-Debt Tax Shield

Based on the Trade-off theory, the non-debt tax shield negatively influences debt borrowing. Non-debt tax shield has been introduced by (DeAngelo & Masulis, 1980) as the alternative to the benefits of debt interest. (Chadha & Sharma, 2015) reported a non-debt tax shield positively influenced debt level. A non-debt tax shield is measured by the ratio of annual depreciation expenses divided by total assets.

Hypothesis 5: Non-debt tax shield positively impacts long-term debt

Earnings Volatility

According to the Trade-Off theory, firms with high earnings volatility have a higher chance of not being able to pay interest and the principal of debts. In addition, distressed firms will avoid issuing more debt due to the high cost of bankruptcy (Ramli et al., 2019). Therefore, both the Pecking Order theory and Trade-Off theory agree that earnings volatility negatively influence debt borrowing. Sakr & Bedeir (2019) found that earnings volatility negatively influenced debt borrowing. While Chadha & Sharma (2015) reported a contrasting finding where earnings volatility positively influenced debt levels. Earning volatility is measured by the standard deviation of earnings before interest and tax divided by total assets.

Hypothesis 6: Earnings volatility negatively impacts long-term debt

Table 1 Summary of prediction by Trade-Off theory and Pecking Order theory and expected relations

No	Determinants	Trade-off theory	Pecking order theory	Expected
1	Profitability	Positive	Negative	Negative
2	Asset Tangibility	Positive	Negative	Positive
3	Growth Opportunities	Negative	Positive	Positive
4	Liquidity	Positive	Negative	Negative
5	Non-debt Tax Shield	Negative	n/a	Positive
6	Earnings Volatility	Negative	Negative	Negative

Control Variables

Firm Size

Debt borrowing will increase as the firm size increase, while the reverse relationship with bankruptcy. This means that the larger the firm, the higher the ability of the firm to overcome bankruptcy. Firm size is measured by the natural logarithm of total assets (Chakrabarti & Chakrabarti, 2019; Kirshin & Volkov, 2018).

Firm Age

Firm age is calculated as the number of years from the date of incorporation. A firm that has existed for a longer period in the industry has better access to debt compare to the newly established firms. This is because creditors have evaluated their creditworthiness in terms of the firms' prepaying debt (Chen & Strange, 2005), reputation, and capabilities on the project selection that imply substitution of assets from time to time (Serrasqueiro & Caetano, 2014). Firm age is measured by the natural logarithm of firm age (Chakrabarti & Chakrabarti, 2019).

RESEARCH METHODOLOGY

This study was carried out based on the financial data of oil & gas firms listed in Bursa Malaysia for the period from 2008 until 2017 (10 years). The financial data were collected from the Thomson Reuter DataStream database as well as the published annual reports. A judgmental sampling technique was adopted as there was a need for meeting criteria of selecting the listed companies to suit the objective of the study. Initially, there are a total of 31 oil and gas firms listed on Bursa Malaysia. However, due to the limitation of the available data, a final sample of 28 firms will be taken into consideration. The combination of cross-sectional and time-series data are known as panel data. The main concern under panel data analysis is that there is a need to deal with fixed effect, random effect, and pooled effect for greater robustness in the estimation. Adoption of fixed or random effect would be decided by using the Hausman Test, the authors also presented the pooled model to offer robust results. Hypothesis testing was based on the best model. The statistics software used to estimate the model was STATA. The model of the study as below:

$$LTD_{it} = \alpha + \beta_1 PROF_{it} + \beta_2 TANG_{it} + \beta_3 GROW_{it} + \beta_4 LIQ_{it} + \beta_5 NDTS_{it} + \beta_6 VOL_{it} + \beta_7 SIZE_{it} + \beta_8 AGE_i + \varepsilon_{it}$$

Where LTD_{it} is the long-term debt ratio for the firm *i* in the year *t*. α is the intercept of the regression line, and β stands for coefficiency of independent variables. The determinants are profitability (PROF), assets tangibility (TANG), growth opportunities (GROW), liquidity (LIQ), non-debt tax shield (NDTS), and earnings volatility (VOL). Control variables are the firm size (SIZE) and firm age (AGE). ε_{it} denoted the error term.

RESULTS AND DISCUSSION

Descriptive Statistics

Table 2 summarizes the descriptive statistics of all variables over the period of study. It is interesting to observe that oil and gas firms in Malaysia are

not relying on long-term borrowing as the average estimated is only 14.65 percent. One of the possible facts is that banks have been cautious in their lending to the oil and gas firms as the firms are working on a very volatile industry. However, the data collected shows that some of the oil and gas firms are highly leveraged with 63.92 percent of long-term debt, while some of the oil and gas firms are reluctant to have long-term debt as an option of financing.

Unit Root Tests

Table 3 presents the unit root test results for all variables over the period. The panel unit root test was conducted to ensure that all data are stationary as non-stationary data will lead to spurious regression (Gujarati & Porter, 2009). This was to accommodate the time series effect of 10 years and cross sections of 28 companies. The Levin-Lin-Chu and Harris-Tzavalis tests were performed to assess the existence of non-stationary data. The

Table 2 Summary of descriptive statistics

Determinants	Obs	Mean	SD	Min	Max
Long-term debt	280	0.1465	0.1540	0.0000	0.6392
Profitability	280	0.0339	0.1056	-0.4306	0.4388
Asset tangibility	280	0.4846	0.2567	0.0020	0.9538
Growth opportunities	280	0.4025	4.7010	-0.7547	78.5890
Liquidity	280	2.0235	9.8873	0.0635	166.1115
Non-debt tax shield	280	0.0255	0.0190	0.0004	0.1404
Earnings volatility	280	0.0596	0.7888	0.0018	0.9977
Firm size	280	12.7083	4.2397	7.9841	17.4326
Firm age	280	0.9328	0.4554	0.3010	1.7634

Note: Obs (Observation), SD (Standard deviation), min (minimum), max (maximum).

Table 3 Panel Unit Root Test

Determinants	Levin-Lin-Chu		Harris-Tzavalis	
	Stat.	Prob.	Stat.	Prob.
Long-term debt	-4.4847	0.0000***	0.4209	0.0000***
Profitability	-2.6660	0.0038***	0.1923	0.0000***
Asset tangibility	-8.1810	0.0000***	0.5151	0.0000***
Growth opportunities	-2.3796	0.0087***	-0.1243	0.0000***
Liquidity	-3.4844	0.0002***	-0.1143	0.0000***
Non-debt tax shield	-1.8666	0.0310**	0.2411	0.0000***
Earnings volatility	-2.6889	0.0036***	-7.6400	0.0000***
Firm size	-19.4718	0.0000***	0.7051	0.3351
Firm age	-16.3113	0.0000***	0.9340	1.0000

***Significant at 1%, **significant at 5%, *significant at 10%

results presented in Table 3 shows that all variables are stationary at a significant level of 1%.

Multicollinearity Test

Table 4 presents the correlations coefficients for the determinants of long-term borrowing. This test was conducted to ensure that the combination of all determinants in the analyses will lead to a more comprehensive measure as each of the factor capture distinct dimension. As the rule of thumb, a correlation of coefficients excess of 0.8, shows there is a severe multicollinearity problem exist in the model (Gujarati, 2004). The results show that there are no strong correlation coefficients between the determinants except for growth opportunities and liquidity (0.9931). The high correlation coefficients between these two determinants indicate a potential problem of multicollinearity, which may cause highly inflated parameters. Hence, further testing using the variation inflation factor (VIF) was conducted to detect and strengthen our analysis.

Variance Inflation Factor (VIF)

As the rule of thumb, VIF for each determinant should less than the threshold value of 10 to shows there is no multicollinearity problem exist in the model (Gujarati, 2004). However, based on table 5, the VIF for liquidity (96.57) and growth opportunities (96.04) exceeding the threshold value. Therefore, there exists a serious multicollinearity problem. To circumvent this issue, we exclude liquidity which having extremely higher individual VIF. Hence, reducing the growth opportunities' VIF from 96.04 to 1.04 just below the recommended threshold value of 10, and reduce others VIF as well.

Table 4 Correlations coefficients between independent variables

Determinants	Mean	1	2	3	4	5	6	7	8
1. PROF	0.03	-							
2. TANG	0.48	-0.11	-						
3. GROW	0.40	-0.01	-0.09	-					
4. LIQ	2.02	0.00	-0.10	**0.99****	-				
5. NDTS	0.02	**-0.13***	**0.34****	-0.09	-0.07	-			
6. VOL	0.06	-0.04	-0.01	-0.05	-0.01	**0.12***	-		
7. SIZE	12.71	0.10	**0.67****	0.00	0.03	**0.44****	**0.18****	-	
8. AGE	0.93	-0.00	**0.39****	-0.02	-0.00	**0.33****	**0.27****	**0.66****	-

**Significant at 1%, *significant at 5%

Note: Prof (Profitability), TANG (Asset tangibility), GROW (Growth opportunities), LIQ (Liquidity), NDTS (Non-debt tax shield), VOL (Earnings volatility), SIZE (Firm size), AGE (Firm age).

Table 5 Corrected Variance Inflation Factor (VIF)

Determinants	VIF		
Liquidity	96.57	→	(Removed)
Growth opportunities	96.04	→	1.04
Firm Size	3.47	→	3.24
Asset tangibility	2.24	→	2.08
Firm age	1.87	→	1.86
Non-debt tax shield	1.31	→	1.30
Earnings volatility	1.27	→	1.13
Profitability	1.14	→	1.14
Mean VIF	**25.49**	→	**1.69**

Note: Individual VIF for all determinants are free from multicollinearity after liquidity was excluded.

Regression Analysis

Table 6 presents the empirical finding of pooled OLS regression. However, the sample data were across firms over a period, which may lead to cross-sectional effects. To rectify this effect, both the fixed effect and random effects method were employed. Table 7 presents the empirical finding of fixed effects and random effects regressions. The insignificant Hausman test result suggests that the random effects model is the most appropriate method for this study. Based on the random effect result, only asset tangibility is statistically significant in influencing long-term borrowing for oil and gas firms in Malaysia. It demonstrates the importance of asset tangibility as compared to other determinants in assessing long-term borrowing. In addition, the asset tangibility found to have a positive influence as predicted by Trade-off theory, suggesting the higher the asset tangibility, the higher the long-term borrowing by oil and gas firms in Malaysia This probably would occur due to the unpredictable environment of the business of oil and gas firms, where no indication exists of the industry future. Therefore, lenders will feel confident that the firm will be able to meet the long-term obligation as tangible assets can be used as collaterals on borrowings and reduce the risk of being unable to meet the obligations in the future. Therefore, it appears to support the second hypothesis, and it is in line with results by (Gómez et al., 2014).

On the other hand, profitability, growth opportunities, non-debt tax shield, earnings volatility show insignificant results suggesting these determinants have no impact on the long-term borrowing decision for oil and gas firms in Malaysia. Nevertheless, the control variables, which are size, and age of the firm, show a statistically significant influence on long-term borrowing decisions for oil and gas firms in Malaysia. The firm size was found to be positively significant as predicted by the trade-off theory. In contrast, the firm age was found to be negatively significant as predicted by the Pecking order theory. The insignificance of the variables (except asset tangibility) signify the relevance of the fundamentals among the oil and gas firms especially for increasing long term financing. Admittedly, these findings offer a more insightful information on the applicability of the static model of financing in the case of oil and gas industry.

Table 6 Pooled Ordinary Least Square analysis

Determinants	Coefficient	Standard error	t-test	Probability
Constant	-0.0086877	0.0228634	-0.38	0.704
Profitability	-0.0729377	0.0729355	-1.00	0.318
Asset tangibility**	0.3382300	0.0405717	8.34	0.000
Growth opportunities	-0.0000152	0.0015631	-0.01	0.992
Non-debt tax shield	0.4263973	0.4318277	0.99	0.324
Earnings volatility	0.0568774	0.0971122	0.59	0.559
Firm size	0.0069130	0.0030630	2.26	0.025
Firm age	-0.1161591	0.0216076	-5.38	0.000

** significant at 0.01.

Figure 1 Residual Plots for long-term debt

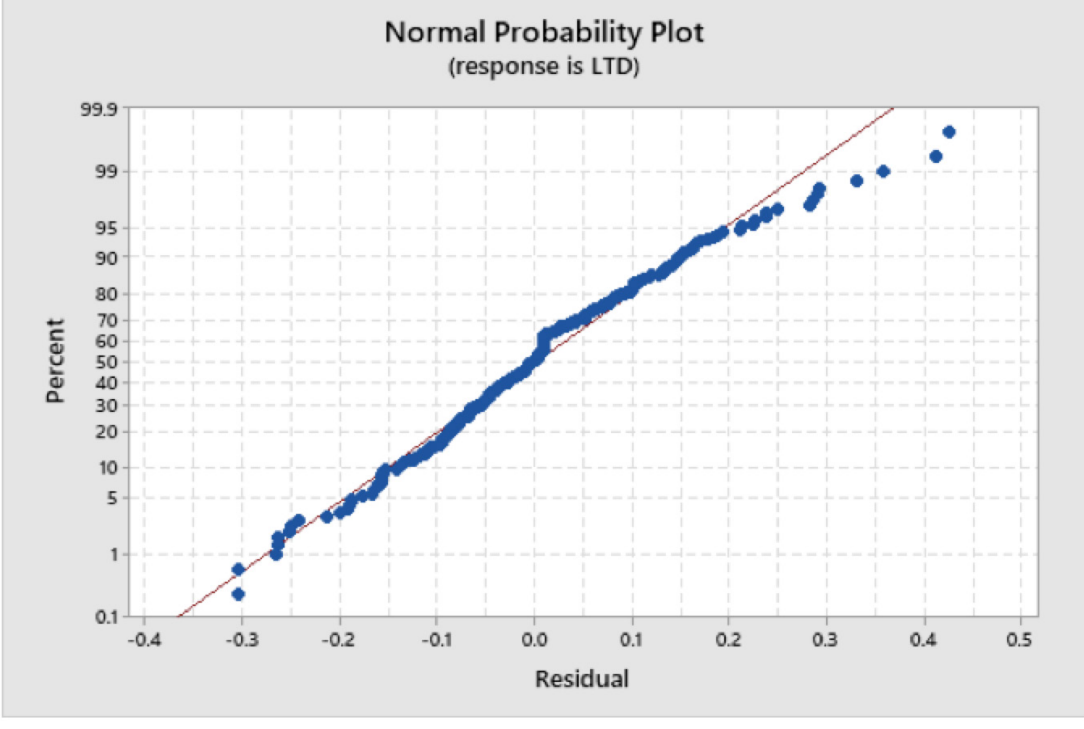

Table 7 Fixed effect and random effect analysis

Determinants	Fixed Effect				Random Effect			
	Coefficient	SE	t-ratio	p-value	Coefficient	SE	z-ratio	p-value
Constant	0.0745738	0.0333736	2.23	0.026	0.0197016	0.0277318	0.71	0.48
Profitability	-0.0454078	0.0717292	-0.63	0.527	-0.0342982	0.0691482	-0.50	0.62
Asset tangibility**	0.3602143	0.0466515	7.72	**0.000**	0.3443586	0.0430608	8.00	**0.00**
Growth opportunities	0.0014291	0.0014392	0.99	0.322	0.0009961	0.0014234	0.70	0.48
Non-debt tax shield	0.4068767	0.5167137	0.79	0.432	0.2695390	0.4686744	0.58	0.57
Earnings volatility	-0.0046749	0.1122427	-0.04	0.967	0.0222683	0.1036679	0.21	0.83
Firm size	0.0080567	0.0031853	2.53	0.012	0.0071482	0.0030351	2.36	0.02
Firm age	-0.2295786	0.0456743	-5.03	0.000	-0.1483289	0.0298303	-4.97	0.00
R^2		0.3281				0.3912		
F-statistics		25.49				186.04		
Prob. (F-statistics)		0.0000				0.0000		
No. of obs.		280				280		
No. of group		28				28		
Hausman test	6.76 (p=0.4539)							

Note: Hausman test (Null hypothesis: Random effect model is appropriate). ** Significant at 0.01.

CONCLUSION

This study is to provide an insight into long-term borrowing decisions for oil and gas firms in Malaysia. In essence, the results suggest that only asset tangibility influences the long-term borrowing decision for oil and gas firms in Malaysia. The presence of asset requirement for the borrowing by the oil and gas companies confirms that the adoption of the Trade-off theory is more prevailing. This may reflect that lenders required tangible assets as collateral for issuing long-term borrowing as the industry always shows significant fluctuations due to the changes in the oil price. This forces lenders to be more cautious when dealing with the energy sector.

Nevertheless, future studies can be conducted by extending the study to short term borrowing and the impact of capital structure on the firm value. Another possible future line of research could include a comparative analysis between oil and gas firms with non-oil and gas firms in Malaysia. Perhaps this will offer a better insight into how oil and gas firms in Malaysia might have differed from other sectors on long-term borrowing decisions in Malaysia in particular.

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