

# Determinants of Capital Structure of Malaysian SMEs

Azhar Abdul Rahman

*Tunku Puteri Intan Safinaz School of Accountancy (TISSA), College of Business, Universiti Utara Malaysia 06010 UUM Sintok, Kedah, Malaysia*

---

## Abstract

This study tries to predict the determinants of Malaysian small and medium-sized enterprises (SMEs) financial structure. The study adds to the literature on SME financial structure by formally testing the impact of the quantity of accounting information on SME financial structure, a variable that has not been explicitly tested in the Malaysian context. Previous studies were also conducted in developed countries. Hence, the results may not be applicable in a developing countries like Malaysia. Using a sample of 100 manufacturing SMEs, their annual reports were analysed for selected variables. Financial structure (i.e. the dependent variable) was measured using the ratio of total liabilities to total assets. The explanatory variables employed were accounting quantity (type of accounting standard), firm size, firm age, asset structure, liquidity and profitability. Consistent with the traditional view that asymmetric or incomplete information restricts access to external funds, the result indicates that the quantity of financial statement information is positively related to SME leverage. Secondly, because the results for the control variables are consistent with prior studies, it can be concluded that the financial behaviour of Malaysian SMEs is comparable to that of SMEs in other developed countries. Specifically, the result shows that leverage is negatively related to firm size, liquidity and profitability. The findings also indicate that the traditional capital structure theories [i.e. Pecking-order theory (POT), trade-off theory and agency theory] are only partially relevant in explaining Malaysian SME capital structures, thus supporting the argument that no single theory gives a general explanation of firms' financing strategies.

**Keywords:** Financial structure, SME, Information asymmetry, Quantity of information, Malaysia

---

## 1. INTRODUCTION

Generally, capital structure of a firm may consist of equity or debt or a combination of debt and equity. The various financing decisions are vital for the financial welfare of the firm. A wrong decision about the capital structure may lead to financial distress and eventually to bankruptcy. Modigliani and Miller (1958) argues that, in a 'perfect' world, the choice between equity and debt is irrelevant. When taxes and other market imperfections are introduced, only a single optimal financial structure is available, because firms will increase debt financing until the advantage of tax deductibility of interest expenses is counterbalanced by the disadvantages of other market imperfections such as bankruptcy costs (i.e. trade-off theory). Other theories have challenged this view, such as the pecking-order theory which predicts that, due to asymmetric information, firms will prefer internally generated funds over debt and equity financing (Myers, 1984; Myers & Majluf, 1984).

While substantial empirical research has focused on the financial structure choice of large/listed firms, the economic importance of SMEs (Psillaki & Daskalakis, 2008) has generated research on SME financing. For example, SMEs in Malaysia account for 99.2 percent or 548,267 of total establishments in the three economic sectors of manufacturing, services and agriculture and contribute approximately 3 million or about 65.1 percent of the total employment (UNDP, 2007; SME Corp. Malaysia, 2012). Furthermore, previous results for large/listed firms may not be applicable to SMEs. Firstly, the fiscal advantages of debt will typically be quite restricted for SMEs, because (1) SMEs have higher cost of debt than large firms because banks consider SMEs to be more risky than large firms (Scherr *et al.*, 1993); (2) small firms also generally have lower profit margins, because they

---

\*Corresponding author. Tel.: +0-604-9287229; Fax: +0-604-9287256  
E-mail: [azhar258@uum.edu.my](mailto:azhar258@uum.edu.my)

operate in less concentrated and more competitive markets; and (3) SMEs are typically subject to lower tax rates (Pettit & Singer, 1985). Secondly, capital structure decisions in SMEs are often influenced by the entrepreneur's desire to maintain family control over the firm (Ang, 1992). Finally, information asymmetry problems are found to be more acute for SMEs (discussed later in Section 2).

This study adds to the growing body of research on SME financial structure by formally testing the impact of quantity of accounting information using a restricted sample of Malaysian SMEs. It is generally accepted that informational opacity hinders SMEs' access to external funds (Berger & Udell, 1998), but the effect of differences in (quality of) presentation of financial information has been barely examined. No study has been conducted to investigate the direct impact of information quantity as a main independent variable on leverage decision for SMEs in Malaysia. Therefore, this study attempts to further investigate this relationship in Malaysia with updated data. It is hoped that the study's findings help bridge the gap and shed some light on the literature, specifically in the Malaysian context.

In line with the traditional information asymmetry argument, the results indicate that the quantity of financial information is significantly related to SME leverage. Findings for three other firm-specific determinants of leverage are generally consistent with prior studies: SME leverage is negatively related to firm size (total assets), liquidity and profitability. The other two variables (namely firm age and asset structure) do not show any significant relationship with leverage. The paper proceeds as follows. Section 2 discusses the theoretical underpinnings of this study and the relevant literatures. A discussion of the hypotheses is also carried out in this section. Section 3 then presents the data and methodology section where the sampling method and procedures and the measurement of variables are discussed. Data are then analysed and the results are presented and discussed in Section 4. Finally, Section 5 summarizes the main findings and concludes.

## **2. THEORETICAL REVIEW AND FORMULATION OF HYPOTHESES**

Myers (1984) and Myers and Majluf (1984) who proposed the Pecking-order Theory (POT), is based on the assumption that inside management is better informed of the true value of the firm than outside investors. Managers will prefer those sources of funds that are less vulnerable to undervaluation resulting from information asymmetries. The theory states that firms prefer to use internal financing (retained earnings) rather than external financing when face with making their funding choice. However, if they are forced to use external funding, they prefer debt financing to equity financing. Jean (2004) argued that this model is significant in explaining several patterns in corporate finance, including the tendency of companies to not issue shares and their option to hold high level of retained cash. From the perception of firms, issuing equity is the riskiest decision due to investors' high expected return. In contrast, carrying more debt has a minor risk and retained earnings can prevent the problem. Hence, retained earnings are used as much as possible. If retained earnings are not sufficient, debt financing is used. Equity financing is employed only as a final option. The greatest limitation of the pecking order framework is that it ignores the effects of interest tax shields, financial distress, security issuance costs, agency costs, and investment opportunities, which have been widely included in recent studies on capital structure. In addition, several studies go against the pecking order hypothesis, indicating that it ignores several practical leverage choice patterns of firms (Dimitrios, Nikolaos, & Nikolaos, 2009; Seifert & Gonenc, 2008). Frank and Goyal (2005) argued that most firms reserve some internal funds (cash and short-term investments) even when they employ debt financing. Hence, further research and alternative methodologies are warranted to analyse the existence of the pecking order financing pattern.

In contrast to POT, the Trade-off Theory (TOT) was proposed by Modigliani and Miller (1963). This theory assumes that the cost of debt can protect firm earnings from corporate income tax and thus, 100% debt should be employed to maximise profit. However, acquiring 100% debt is extremely risky to firms. Hence, to avoid this extreme case, bankruptcy cost was introduced to offset the cost of debt. Kraus and Litzenberger (1973) opined that the TOT presumes that the optimal leverage of firms is a trade-off between the tax benefits of debt and the costs of debt, which is known as deadweight costs of bankruptcy. Firms adopting the TOT must identify an objective debt-to-value ratio and then slowly achieve the target (Myers, 1984). According to the TOT, highly profitable firms have more profits to use and are in less risk of bankruptcy. Highly profitable firms, therefore, aim to maintain a higher debt-to-capital ratio. However, empirical evidence indicates that this assumption is not true and does not entirely support the trade-off model. Baskin (1989) gathered data for more than 50 years in different countries and showed that highly profitable firms tend to have less debt, even though they have high levels of earnings to cover the risk of bankruptcy. Whereas some studies have explicitly tried to distinguish between these theories (Lopez-Gracia & Sogorb-Mira, 2008), it appears that all the aforementioned theories help to explain SME's financial structures.

Based on the aforementioned theories, this study tries to predict determinants of SME financial structure in the Malaysian context. Firstly, the lack of publicly available information about SMEs (and the resulting information asymmetry) is considered to have an important impact on their financial structure. It is typically argued that asymmetric information problems are far more severe in SMEs relative to large firms because of the lack of publicly available, uniform and detailed accounting information. Moreover, the quality of their financial statement (FS) is assumed to vary because they are typically not audited (Ortiz-Molina & Penas, 2006; Pettit & Singer, 1985), which lead to some researchers labeling them as “acutely informationally opaque” small businesses (Berger & Udell, 1998, p.886). Despite the importance of this issue, to the author’s knowledge, no prior studies have explicitly tested the impact of information quantity on SME leverage [except the Belgian’s study by Caneghem and Campenhout (2012)].

The Malaysian environment provides an interesting setting to study the impact of information quantity on the financial structure of SMEs. Firstly, Malaysian firms are required to file their financial statements (FS) according to a prescribed format in which the different items to be disclosed are explicitly defined. There are two FS formats: a complete format using the new Malaysian Financial Reporting Standards (MFRS) and an old format using the Private Entity Reporting Standards (PERS). The latter is less detailed and has lower information value than the former; for example, for the accounting standard on Presentation of Financial Statements (MFRS 101), while the complete format has 41 pages, the old format (PERS 101) consists of only 32 pages. Specific examples of differences between the two formats are that, on the balance sheet, the old format contains less detailed information with respect to financial fixed assets, inventories, investments, and long-term debt. Furthermore, in the income statement, operating revenues (e.g. turnover) and expenses are merely summarized as a gross margin, whereas detailed information on both operating revenues and expenses are mandatory in the complete format. Last but not least, far less information (and detail) is required in the notes for the old format of the FS. SMEs in Malaysia is characterized by the prevalence of privately held firms (and therefore low levels of ownership dispersion) and low litigation risk. The lack of public scrutiny (by e.g. analyzed investors and financial analysts) resulting from private ownership, coupled with low litigation risk, is likely to negatively affect FS quantity.

A firm can opt to file the old format of the FS if it fulfills one of the following criteria: (1) has less than 200 employees or (2) has sales turnover not exceeding RM50,000,000. Firms that do fulfill these criteria are required to prepare their FS according to the new format. The key advantages of using the old format for a firm are: (1) that less time is required to prepare the FS, and (2) that potentially sensitive information (e.g. turnover) is protected from public scrutiny. Accordingly, those Malaysian SMEs which are qualified to use the old format may opt to use the complete format of the FS (and provide the same amount of information as large Malaysian firms) but they have to use it consistently from year to year. Importantly, regardless of the FS format used, the firm is obliged to provide all information contained in that type of format. Thus, based on the format of the FS filed, one is able to test the impact of information quantity on SME financial structure. Although FS captures only one aspect of a firm’s disclosure policy, “[f]inancial statements are one of the most important means by which unlisted firms communicate the status of their business to outside stakeholders” (Beuselinck *et al.*, 2008, p. 616). Hence, a positive relationship between leverage and the quantity of information is predicted:

**H1:** More detailed FS are positively related to leverage.

For the other independent variables in the models, competing theories may predict the opposite effects. Given that it is not the aim of the study to test the validity of one specific theory, the hypotheses developed are based on the documented dominant effect in prior empirical studies to increase the comparability of the results to existing literature. For the same reason, given the Malaysian focus of the current study, the predictions made are based upon documented effects in studies of SMEs in other countries and based on Malaysian data, if available.

Following both TOT and POT, studies on the financial structure of SMEs typically control for firm size. Larger firms, which tend to be more diversified, have lower probabilities of default than smaller firms (Pettit & Singer, 1985; Warner, 1977). In other words, larger firms have lower bankruptcy costs and based on TOT, a positive relation between leverage and firm size is therefore expected. Moreover, because more information is typically available for larger firms than for small firms, the former will have fewer information asymmetries (Cole, 2008; Psillaki & Daskalakis, 2008; Abor & Biekpe, 2009). Based on POT, a positive relation between leverage and firm size is therefore predicted. Whereas both theories predict a positive relationship between firm size and leverage, empirical findings are inconclusive; some studies found positive relationships (Fahmi & Noryati, 2013; Mazila *et al.*, 2013; Nabilah *et al.*, 2012; Zeitun *et al.*, 2017; Chakrabarti & Chakrabarti, 2018), while some others found negative relationships (Esperança, Gama, & Gulamhussen, 2003; Heyman *et al.*, 2008). Pettit and Singer (1985) argued that while agency costs of debt are likely to be higher for small firms, agency costs of equity may be even higher for those firms, and this could result in higher leverage for small firms. Consistent with this argument and

based on Malaysian data, Lean *et al.* (2015) report a significant negative relation between leverage and firm size. Given the focus of this study on Malaysian firms, the second hypothesis to be tested is:

**H2:** Firm size is negatively related to leverage.

Age is another firm factor that can influence the leverage decision. According to POT, the greater the age of a firm, the greater is its capacity to self-generate resources and the less is its need to resort to external financing. Information asymmetries are assumed to be less severe for older firms than for younger firms because the former have established a track record and reputation [e.g. regarding their ability to meet (financial) obligations in a timely manner] (Ang, 1991; Diamond, 1989). However, younger firms may generate insufficient profits (i.e. retained earnings) to finance operational growth (Cole, 2008; Esperanca *et al.*, 2003; Lopez-Gracia & Sogorb-Mira, 2008). If the personal resources of the firm owner(s) are limited, younger firms are forced to take on external debt. In line with this view, most empirical studies (Cole, 2008; Ramalho & Silva, 2013; D'Amato, 2019) observe a negative relationship between firm age and leverage. This leads to the following hypothesis:

**H3:** Firm age is negatively related to leverage.

A number of studies demonstrate that the majority of loans to SMEs are collateralized (Berger & Udell, 1990; Harris & Raviv, 1991; Kon & Storey, 2003). The use of collateral is aimed at reducing agency problems (related to adverse selection and moral hazard) between the shareholder and the lender (Myers & Majluf, 1984). As argued in the literature, tangible assets will be easier to collateralize (as compared with intangibles) given that they usually have reasonably active secondary markets and less uncertain values in distress situations (Hutchinson, 1995). Debt covenants are therefore typically written in terms of tangible assets and often explicitly exclude intangibles (Long & Malitz, 1992). Based on these arguments, firms with more tangible assets will have easier access to external debt. Moreover, a firm will try to maximize the issuance of secured debt vis-a-vis unsecured debt because the agency costs (and hence the cost of capital) of the former are lower. In sum, firms with more tangible assets are expected to have a higher debt ratio. The trade-off theory suggests a positive relationship between asset tangibility and leverage ratio. In spite of conflicting evidence (Esperanca *et al.*, 2003), most empirical findings are consistent with the aforementioned expectation (Sogorb-Mira, 2005; Heyman *et al.*, 2008; Degryse *et al.*, 2012; D'Amato, 2019). Based on the above argument, the following hypothesis is developed:

**H4** Asset tangibility is positively related to leverage.

Profitability is another determinant of SME capital structure. Based on TOT, a positive relationship between leverage and profitability is expected because (1) high(er) profits tend to be associated with low(er) default risk; and (2) the higher the profitability of the firm, the more taxes that can be avoided by using debt (Cole, 2008; Heyman *et al.*, 2008; Psillaki & Daskalakis, 2008). In contrast, a negative relationship is expected based on POT, because profitable firms have more internally generated funds, which are preferred over debt and equity financing (Cole, 2008). In support of POT, most empirical studies observe a negative relationship between leverage and firm profitability (Deesomsak, Paudyal, & Pescetto, 2004; Nadaraja, Zulkafli, & Masron, 2011; Ang, 1992; Nurul *et al.*, 2011). Generally, SMEs behave according to POT since agency conflicts between managers and shareholders are less relevant (Degryse *et al.* 2012). In this study, the hypothesis is based on POT and a negative relationship is expected between profitability and leverage, like those found in the empirical studies of D'Amato (2019), Serrasqueiro and Nunes (2014) and Nurul *et al.* (2011). Hence, the following hypothesis is developed:

**H5** Profitability is negatively related to leverage.

The liquidity ratio is an indication of a firm's ability to invest as well as to pay for current liabilities and expenditures. From the pecking order theory perspective, highly liquid firms are expected to have less debt (Deesomsak *et al.*, 2004; Proença *et al.*, 2014; Zeitun *et al.*, 2017) because the increased availability of financial resources in terms of liquidity generated by retained profits enables such firms to be less dependent on debt capital (De Jong *et al.*, 2011). The argument was confirmed by Viviani (2008) who noted that firms' payments are often financed by trade credit, which leads to increased current liabilities. Therefore, most indebted firms have lower levels of cash (Pastor & Gama, 2013). Accordingly, the following hypothesis is formulated:

**H6** There is a negative relationship between liquidity and leverage.

### 3. DATA AND RESEARCH METHODS

#### 3.1 Data collection

All data were collected from the Companies Commission of Malaysia (CCM), which contains annual reports of Malaysian SME firms. The SME definition was taken from the SME Corporation Malaysia (SME Corp. Malaysia, 2012), which is a Central Coordinating Agency under the Ministry of International Trade and Industry Malaysia. Only manufacturing firms were selected as the selected variables can only be obtained from such firms. A firm is regarded as a manufacturing SME if it meets the following criteria: (1) has less than 200 employees, or (2) has sales turnover not exceeding RM50,000,000; whichever is lower. Based on these criteria, an initial population of 570 SMEs was detected. The sample is restricted to 2013 as this was the starting year of the research project. Analogous to Mazila *et al.*, (2013), firms that belong to the services and agriculture sectors were excluded. Further, those firms with missing values were removed. From the final population of 370 firms, a random sample of 100 SMEs was conducted.

#### 3.2 Variables

In this section, an overview of the definitions of the dependent and independent variables that are used in the SME's financial structure model was provided. Financial structure (i.e. the dependent variable) was measured based on a broad definition of leverage, which is defined as the ratio of total liabilities to total assets. Following previous studies (Chittenden, Hall, & Hutchinson, 1996; Zeitun *et al.* (2017); Caneghem & Campenhout, 2012), the ordinary least-squares (OLS) regression model was used as the main statistical techniques in the current study. In testing the hypotheses, and to identify potential relationships between the independent and dependent variables, the following regression model was developed:

$$LEV = \beta_0 + \beta_1(QINFO) + \beta_2(SIZE) + \beta_3(AGE) + \beta_4(AS) + \beta_5(PROFIT) + \beta_6(LIQ) + \mathcal{E}$$

Where:

LEV	= Leverage
QINFO	= Quantity of info
SIZE	= Firm size
AGE	= Firm age
AS	= Asset structure
PROFIT	= Profitability
LIQ	= Liquidity;
$\beta_0$	= Constant; and
$\mathcal{E}$	= random error term

The explanatory variables are defined below:

- Quantity of information (QINFO) is measured by means of a dummy variable that takes a value of 1 if the firm filed its 2013 FS using the new accounting standard (MFRS), and 0 if the old accounting standard (PERS) of the FS was filed.
- Firm size (SIZE) is measured as the natural logarithm of total assets (e.g. Abor & Biekpe, 2009; Mazila, *et al.*, 2013; M'ng *et al.*, 2017). As argued by Fama and French (2002), employing the log transformation allows controlling for possible non-linearity in the data (and the related problem of heteroskedasticity).
- Firm age (AGE) is defined as the natural logarithm of the number of years since the incorporation of the firm (Caneghem & Campenhout, 2012; Cole, 2008; Wasiuzzaman & Nurdin, 2019). Analogous to Caneghem and Campenhout (2012), the log transformation was used because it was expected that a 1 year difference in age is more important to the leverage of a young firm than to the leverage of an old firm.
- Asset structure (AS) is measured as the ratio of tangible assets (net fixed assets and inventories) to total assets (e.g. Abor & Biekpe, 2009; M'ng *et al.* (2017).
- Profitability (PROFIT) is defined as return on total assets, being the ratio of earnings before interest and taxes (EBIT) to total assets (e.g. M'ng *et al.*, 2017.; Nurul, *et al.*, 2011; Sogorb-Mira, 2005; Haron, 2014).
- Liquidity (LIQ) is measured as the ratio of current assets to current liabilities; This measurement is consistent with Zeitun *et al.* (2017) and D'Amato (2019).

### 4. RESULTS AND DISCUSSION

Table 1 presents descriptive statistics. The high mean leverage of 79% can be explained by the high dependency of SMEs in Malaysia with banks in getting loans. The maximum leverage of 606% indicates that some SMEs

(nine companies) in the sample have large retained losses on their balance sheet (i.e. negative equity). A majority of the SMEs (94%) prepared their FS using the old accounting standard, while 6% of the SMEs opted the new accounting standard. With respect to asset structure, it shows that, on average, tangible assets represent about 49% of total assets. This value is slightly higher than those reported in prior studies (e.g. Caneghem & Campenhout, 2012; Heyman et al. 2008; M'ng *et al.*, 2017). While average profitability is moderate (i.e. 7%), the sample firms show an average total asset of RM7 million.

Table 1. Descriptive statistics

Variable	Mean	Std. Deviation	Minimum	Maximum
<b>Panel A: Descriptive statistics for the dependent and independent variables</b>				
LEV	0.7920	0.8389	0.02	6.06
AS	0.4909	0.2631	0.00	0.99
PROFIT	0.0691	0.2262	-1.6	0.49
SIZE(RM)	7549763.19	8168420.22	80363.00	39182049.00
AGE(Yrs)	22.3429	9.6962	8	47
LIQ	1.1937	2.0075	0.01	12.08
Type of Accounting Standard (QINFO)			# Obs.	% Obs.
<b>Panel B: Types of accounting standards adopted by Malaysian SMEs</b>				
Old accounting standard (PERS)			94	94
New accounting standard (MFRS)			6	6

Notes: LEV- total liabilities/total assets; QINFO- dummy variable that takes a value of 1 if the firm filed its FS using the new accounting standard, and 0 otherwise; SIZE- ln (total assets); AGE- ln (number of years since incorporation of the firm); AS- tangible assets/total assets; PROFIT- earnings before interest and taxes/total assets; LIQ- liquidity

Table 2 presents the correlation matrix. Quite surprisingly, the quantity of information is negatively related to leverage but not significant, which is inconsistent with H1. The negative correlation between the quantity of information and leverage might (partially) reflect the impact of firm size, given that the legal criteria related to FS format are defined in terms of firm size. The strong positive relationship of the information quantity with firm size, and the negative relationship of firm size with leverage (all statistically significant at the 1% level), are consistent with this explanation. Table 2 also shows that the correlation between leverage and the other independent variable, namely profitability, also confirms with the predicted sign and that it attains statistical significance at the 1% level. As for the independent variables, the highest correlation coefficient value is only 0.295, which is between the quality of information and the natural log of total assets. Gujarati (2003, p. 335) suggests that harmful levels of multicollinearity are present when the bivariate correlation is more than 0.80. The use of the natural logarithm for two variables (SIZE and AGE) also limits the heteroscedasticity problems. The table provides strong justifications that multicollinearity does not appear to be a problem in this study, and neither are the heteroscedasticity and linearity.

Table 2. Correlation matrix

	Lev	AS	PROFIT	QINFO	SIZE	AGE	LIQ
<b>Lev</b>	1						
<b>AS</b>	0.251**	1					
<b>PROFIT</b>	-0.699**	-0.177*	1				
<b>QINFO</b>	-0.024	0.011	0.173*	1			
<b>SIZE</b>	-0.354**	-0.039	0.239**	0.295**	1		
<b>AGE</b>	-0.125	-0.067	-0.038	-0.088	0.251**	1	
<b>LIQ</b>	-0.329**	-0.272**	0.187*	-0.044	-0.002	0.134	1

Absolute values of t-statistics are reported in parentheses

\*Statistically significant at the 5% level; \*\*Statistically significant at the 1% level

The results for the OLS regression model are reported in Table 3. The results in Table 3 indicate that coefficients for two independent variables (i.e. firm size and profitability) attain statistical significance at the 1% level, whereas for the other two independent variables (i.e. the quantity of information and liquidity), attain statistical significance at the 5% level. This observation is supported by the joint F-test, which indicates that, from a statistical point of view, all variables need to be considered in the models.

Unlike results based on bivariate correlations, the coefficient for the variable related to the quantity of information has the predicted sign in the regression model. This change in the sign for the quantity of information variable provides support for the earlier argument that this variable also (partially) captures a size effect. In addition, the observed significant positive coefficient is consistent with H1 and does support the view that lack of (quantity)

information inhibits firms from using external funds because it increases the cost of external funding.

Table 3. Regression results

	<b>B</b>	<b>t-values</b>
Intercept	3.498	(4.947)**
AS	0.248	(1.158)
PROFIT	-2.306	(-9.038)**
QINFO	0.500	(2.028)*
SIZE	-0.151	(-3.220)**
AGE	-0.092	(-0.717)
LIQ	-0.075	(-2.625)*
Adjusted R <sup>2</sup>	57.3%	
F (p-value)	24.273	0.000
Number of obs.	100	

Absolute values of *t*-statistics are reported in parentheses

\*\*Statistically significant at the 1% level

\*Statistically significant at the 5% level

Based on the magnitude of the coefficients in the model, it can be seen that providing more information is associated with a substantially higher leverage ratio. In other words, SMEs that file their FS using the new accounting standards are perceived by creditors or banking institutions as having more credible information than those using the old accounting standards. Hence, the creditors are more likely to provide loans to SMEs that provide more information (quantity) in their annual reports. Based on the above observation, it can be concluded that the financing decision made by SMEs is being influenced by the choice of new or old accounting standards in preparing their FS.

The results on the financial structure of Malaysian SMEs reported in this study show a significant negative coefficient for firm size in the regression model (which is consistent with H2). Bearing in mind that since a natural log transformation (of total assets) was conducted, the coefficient obtained in this study is higher than those reported by Caneghem and Campenhout (2012), M'ng *et al.*, (2017) and Chakrabarti and Chakrabarti (2018). Whereas both TOT and POT predict a positive relationship, firm size is a difficult variable to interpret, as it may capture different effects (Heyman *et al.*, 2008). For example, in the sample (Table 2), firm size is significantly positively related to firm age. Thus, one potential explanation for the observed negative relationship is that older firms have more internally generated funds (i.e. retained profits) that are subsequently used to finance the firm. Younger firms have more difficulties in obtaining debt and will therefore, be more dependent upon other types of liabilities (e.g. trade credit, advance payments from clients etc.).

In line with the argument that more mature firms will rely more on internal financing, the result shows an insignificant negative coefficient for firm age. In addition, the negative sign supports the TOT prediction of a negative relationship because older firms increase their capability to retain resources throughout their lifecycle, reducing the need to resort to borrowing in order to finance their investment opportunities. Consequently, younger SMEs are more dependent on debt because retained earnings are not sufficient to meet their investment needs (Myers, 1984; Myers & Majluf, 1984). In a similar vein, and consistent with H5, we observe a significant negative relationship between leverage and profitability, thus, confirming the POT. It suggests that more profitable firms will have better conditions to self-finance and a lower need to raise debt (Myers, 1984; Myers & Majluf, 1984). The results are consistent with M'ng *et al.* (2017), Nadaraja *et al.*, (2011), Nurul *et al.*, (2011), Zeitun *et al.* (2017) and D'Amato (2019) who find that profitability negatively influence firms' capital structure.

The positive coefficient on the asset structure variable is consistent with H4 (and TOT) but the relationship is not significant. Hence, it does not support H4 that firms with more tangible assets will have easier access to external debt. The small coefficient for asset structure in the model confirms that collateral is not essential for SMEs in mitigating agency problems between the owner and the lender. The result relating to liquidity is significant, which is consistent with H6. The negative relationship is in tandem with the pecking order theory which argues that when the firms' liquidity is high, the firms prefer to use internal funds to finance their operation rather than risking their cash or liquid assets to serve debt. The results are consistent with Zeitun *et al.* (2017), Chakrabarti and Chakrabarti (2018) and D'Amato (2019) who find that liquidity negatively influences firms' capital structure.

## 5. CONCLUSION

Based on a restrictive sample of Malaysian SMEs, this study has formally tested the impact of the quantity of information on SME's financial structure. In line with traditional asymmetric information arguments, the results show that information quantity is positively and significantly related to SME leverage. The results, therefore, support the view that lack of information inhibits firms from using external funds. SMEs with more extensive information and/or a higher amount of information will rely more heavily on debts, which is consistent with the view that these firms have a lower cost of external capital. Due to the significant result, it is sufficient to suggest that Malaysian SMEs are able to substantially reduce the cost of external financing by providing more information in their annual reports. It is generally acknowledged that SMEs are financially constrained because they face difficulties in attracting external debt (i.e. compared with large firms). Whereas, some of the disadvantages related to attracting external debt are beyond management's control (e.g., SMEs are too small to turn to capital markets, SMEs face higher cost of debt because they are considered to be riskier etc.), management decides on the quantity of information that is disclosed, and the result suggests that by providing higher amount of information in a continuous manner will convince creditors to provide credit to these SMEs in the future.

As the results for some of the control variables are consistent with prior studies, it can be concluded that the financial behavior of Malaysian SMEs is comparable to that of SMEs in other developed and developing countries. Specifically, leverage is found to be negatively related to firm size, liquidity, and profitability. Finally, the findings indicate that the traditional capital structure theories (i.e. POT, TOT and agency theory) are partially relevant in explaining Malaysian SME's capital structures. The observed negative relationship between profitability, liquidity and leverage is consistent with POT, the significant negative coefficient for firm size provides support for agency theory. In addition, the positive relationship (even though not significant) between asset tangibility and leverage is consistent with agency theory. Therefore, as argued by Myers (2001), it can be said that no single theory could give a general explanation of firms' financing strategies.

A limitation of the current study is that, because of data restrictions, the analyses are based on data for a single year. As a result, an interesting avenue for further research would be to examine factors that could influence capital structure over a long period of time in the Malaysian setting. Another stream of research is to examine the impact of corporate governance variables on listed SMEs since more data are available for such firms compared to private firms.

## ACKNOWLEDGMENTS

The author would like to thank the Companies Commission of Malaysia (CCM), and SME Corporation Malaysia (SME Corp. Malaysia), for providing the data employed in the current study. The author also acknowledges financial contributions from the Malaysian Ministry of Higher Education (MOHE-FRGS Grant Phase 1/2013, No. 12932) and the Research and Innovation Management Centre (RIMC), Universiti Utara Malaysia for providing several research workshops. The insightful comments of two anonymous reviewers are also gratefully acknowledged.

## REFERENCES

- Abor, J., & Biekpe, N. (2009). How do we explain the capital structure of SMEs in sub-Saharan Africa? Evidence from Ghana, *Journal of Economic Studies*, 36(1), 83–97.
- Ang, J. S. (1991). Small business uniqueness and the theory of financial management. *Journal of Small Business Finance*, 1(1), 1–13.
- Ang, J. S. (1992). On the theory of finance for privately held firms. *Journal of Small Business Finance*, 1(3), 185–203.
- Baskin, J. (1989): An Empirical Investigation of the Pecking Order Hypothesis. *Financial Management*, 18(1), 26–35.
- Berger, G., Ofek, E., & Yermack, L. (1997). Managerial entrenchment and capital structure decisions. *Journal of Finance*, 52(4), 1411–1438.
- Berger, A. N., & Udell, G. F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of Banking & Finance*, 22, 873–897.
- Beuselink, C., Deloof, M., & Manigart, S. (2008). Private equity investments and disclosure policy. *European Accounting Review*, 17(4), 607–639.
- Caneghem, T. V., & Campenhout, G. V. (2012). Quantity and quality of information and SME financial structure, *Small Business Economics*, 39, 341–358.
- Chakrabarti, A., & Chakrabarti, A. (2018) "The capital structure puzzle – evidence from Indian energy sector", *International Journal of Energy Sector Management*, 13(1), 2-23.
- Chittenden, F., Hall, G., & Hutchinson, P. (1996). Small firm growth, access to capital markets and financial structure: Review of issues and an empirical investigation. *Small Business Economics*, 8, 59–67.



- Cole, R. A. (2008). What do we know about the capital structure of privately held firms? Evidence from the surveys of small business finances. *Small Business Administration, Washington, DC*.
- D'Amato, A. (2019). Capital structure, debt maturity, and financial crisis: empirical evidence from SMEs. *Small Business Economics, May*, 1–23.
- Deesomsak, R., Paudyal, K., & Pescetto, G. (2004). The determinants of capital structure: Evidence from the Asia Pacific region. *Journal of Multinational Financial Management, 14*(4-5), 387-405.
- Degryse, H., Goeij, P., & Kappert, P. (2012) The impact of firm and industry characteristics on small firms' capital structure. *Small Business Economics 38*(4): 431–447
- De Jong, A., Verbeek, M. J. C. M., & Verwijmeren, P. (2011), "Firms' debt-equity decisions when the static tradeoff theory and the pecking order theory disagree", *Journal of Banking & Finance, 35*(5), 1303-1314.
- Diamond, D. W. (1989). Reputation acquisition in debt markets. *Journal of Political Economy, 97*, 828–862.
- Dimitrios, V., Nikolaos, E., & Nikolaos, D. (2009). Testing the Pecking Order Theory: The Importance of Methodology. *Qualitative Research in Financial Markets, 1*(2), 85–96.
- Esperanca, J. P., Gama, A. P., & Gulamhussen, M. A. (2003). Corporate debt policy of small firms: An empirical (re)examination. *Journal of Small Business and Enterprise Development, 10*(1), 62–80.
- Fahmi, A. R., & Noryati, A. (2013). Theoretical investigation on determinants of government linked Companies capital structure. *Journal of Accounting, Finance and Academic, 3*(2), 72–85.
- Frank, M., & Goyal, V. (2005): Trade-off and Pecking Order Theories of Debt. <http://ssrn.com/abstract=670543>, accessed on 29 December 2018.
- Gujarati, D. N. (2003). *Basic econometrics* (4th ed.). Boston, MA: McGraw-Hill.
- Haron, R. (2014). Capital structure inconclusiveness: evidence from Malaysia, Thailand and Singapore. *International Journal of Managerial Finance, 10*(1), 23–38.
- Harris, M., & Raviv, A. (1991). The theory of capital structure. *Journal of Finance, 46*, 297–355.
- Heyman, D., Deloof, M., & Ooghe, H. (2008). The financial structure of private held Malaysian firms. *Small Business Economics, 30*, 301–313.
- Hutchinson, R. W. (1995). The capital structure and investment decisions of the small owner-managed firm: Some explanatory issues. *Small Business Economics, 7*, 231–239.
- Jean, J. (2004): Determinants of Capital Structure of Chinese-Listed Companies. *Journal of Business Research, 57*(12), 1341–1351.
- Kon, Y., & Storey, D. J. (2003). A theory of discouraged borrowers. *Small Business Economics, 21*, 37–49.
- Kraus, A., & Litzenberger, R. H. (1973). A state-preference model of optimal financial leverage. *The Journal of Finance, 28*(4), 911–922.
- Lean, H. H., Ting, I. W., & Kweh, Q. L. (2015). Ownership Concentration, Family Ownership and Leverage: Evidence from Malaysia. *Malaysian Journal of Economic Studies, 52*(2), 117–133.
- Long, M., & Malitz, I. (1992). The investment-financing nexus: Some empirical evidence. In J. Stern & D. Chew (Eds.), *The revolution in corporate finance*. Oxford: Basil Blackwell.
- Lopez-Gracia, J., & Sogorb-Mira, F. (2008). Testing trade-off and pecking order theories financing SMEs. *Small Business Economics, 31*, 117–136.
- Mazila, M.Y., Fauziah, M.Y., & Nurzahratul, L. (2013), Determinants of capital structure in Malaysia electrical and electronic sector. *Journal of Social, Human Science and Engineering, 7*(6), 73-78.
- M'ng, J.C.P., Rahman, M., & Sannacy, S. (2017). The determinants of capital structure: Evidence from public listed companies in Malaysia, Singapore and Thailand. *Cogent Economics & Finance, 5*(1), 1-33.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review, 68*(3), 261–297.
- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *The American Economic Review, 53*(2), 433–443.
- Myers, S. (1984). The capital structure puzzle. *The Journal of Finance, 39*, 574–592.
- Myers, S. (2001). Capital structure. *The Journal of Economic Perspectives, 15*(2), 81–102.
- Myers, S., & Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*, 187–221.
- Nabilah, A. S., Salwani, A., & Wan, M. (2012), Capital structure of property companies in Malaysia based on three capital structure theories. *South East Asian Journal of Contemporary Business, Economics and Law, 1*, 131–136.
- Nadaraja, P., Zulkaffi, A. H., & Masron, T. A. (2011), Family ownership, firm financial characteristics and capital structure: Evidence from public listed companies in Malaysia. *Economia Seria Management, 14*(1), 141–155.
- Nurul, S. B., Zaleha, K., Wan, M., & Hussian, D. (2011), Determinants of capital structure for listed construction companies in Malaysia. *Journal of Applied Finance and Banking, 1*(2), 115–132.
- Ortiz-Molina, H., & Penas, M. F. (2006). The Maturity of Loan Commitments to Small Businesses: An Empirical Analysis, Research Paper, Tilburg University.
- Pastor, C., & Gama, P. (2013) Determinant factors of cash holdings: Evidence from Portuguese SMEs. *International Journal of Business and Management, 8*(1), 104–112.
- Pettit, R., & Singer, R. (1985). Small business finance: A research agenda. *Financial Management, 14*(3), 47–60.
- Proença, P., Laureano, R. & Laureano, L. (2014), "Determinants of capital structure and the 2008 financial crisis: Evidence from Portuguese SMEs", *Procedia – Social and Behavioral Sciences, 150*, 182-191.
- Psillaki, M., & Daskalakis, N. (2008). Are the determinants of capital structure country or firm specific? *Small Business Economics, 33*(3), 319–333.
- Ramalho, J., & Silva, J. (2013) Functional form issues in the regression analysis of corporate capital structure. *Empirical Economics, 44*(2): 799–831.

- Scherr, F. C., Sugrue, T. F., & Ward, J. (1993). Financing the small firm start-up: Determinants of debt use. *Journal of Small Business Finance*, 8, 17–36.
- Seifert, B., & Gonenc, H. (2008). The International Evidence on the Pecking Order Hypothesis. *Journal of Multinational Financial Management*, 18(3), 244–260.
- Serrasqueiro, Z., & Nunes, P. (2014). Financing behavior of Portuguese SMEs in hotel industry. *International Journal of Hospitality Management*, 43, 98–107.
- SME Corp. Malaysia (2012). *SME Masterplan 2012-2020: Catalysing Growth and Income*. National SME Development Council, SME Corporation Malaysia.
- Sogorb-Mira, F. (2005). How SME uniqueness affects capital structure: Evidence from a 1994–1998 Spanish data panel. *Small Business Economics*, 25, 447–457.
- UNDP (2007), Malaysia: Small and Medium Enterprises Building and Enabling Environment, United Nations Development Programme (UNDP), Kuala Lumpur.
- Viviani, J. L. (2008). Capital structure determinants: An empirical study of French companies in the wine industry. *International Journal of Wine Business Research*, 20(2), 171-194.
- Warner, J. B. (1977). Bankruptcy costs: Some evidence. *The Journal of Finance*, 32(2), 337–347.
- Wasiuzzaman, S. & Nurdin, N. (2019) Debt financing decisions of SMEs in emerging markets: Empirical evidence from Malaysia. *The International Journal of Bank Marketing*, 37(1), 258-277
- Zeitun, R., Temimi, A., & Mimouni, K. (2017). Do financial crises alter the dynamics of corporate capital structure? Evidence from GCC countries. *Quarterly Review of Economics and Finance*, 63, 21–33.