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Corporate Debt Policy of Malaysian SMEs: Empirical Evidence from Firm Dynamic Panel Data

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ABSTRACT

Financing has been identified as a dominant constraint to Malaysian small and medium-sized enterprises (SMEs). Yet, limited attention has been given to the challenges faced by the SMEs in financing their operations. This paper investigates the determinants of capital structure and use of financing for Malaysian SMEs in manufacturing sector and examines hypotheses by utilising a static trade-off choice or pecking order framework by employing a series of firm characteristics including: size, age, asset structure, profitability, growth, taxation and risk. The system Generalised Method of Moment (GMM) approach has been used for the estimation. The findings suggest that most of the determinants of capital structure presented by the theory of finance appear to be relevant for the Malaysian SMEs. Firm size and asset structure have a significantly positive effect on the leverage ratio in SMEs, while age and taxation have a negative effect. Though, growth has an impact on the total debt of the firms, profitability and risk does not have any significant effect on the decision of debt decision making in Malaysian SMEs. Furthermore, the findings of the study show that Malaysian SMEs in the manufacturing sector generally operate based on a combination of the pecking order and the trade-off theory while borrowing in the long-term and short-term.

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INTRODUCTION

The small and medium enterprises (SMEs) sector has been attracting a significant interest for almost a decade now. SMEs are critical to all economies because of their ability to create significant number of jobs, especially in the developing countries. These enterprises play an important role in the economy of Malaysia and are regarded as the backbone to Malaysia's industrial development. As compared to 32% in the year 2012, SMEs are estimated to contribute 41% to Malaysia's GDP by 2020 (SMECorp, 2018). Also, more than 95.4% of the overall manufacturing establishments in Malaysia are made up of SMEs (SMECorp, 2018). The SMEs in the manufacturing sector are mainly a mixture of processing units and units involved in producing raw materials, such as textiles, food, beverages, wood, petroleum, rubber and the manufacturing and assembling of electrical parts of electronics applications, among others. These SMEs accelerate the efficient utilisation of primary products and propel both the service and the industrial sector by bringing about multiplier outcomes through various linkages. Therefore, SMEs are important to sustain a balanced growth of the country (Czarniewski, 2016). Moreover, in an emerging nation like Malaysia, manufacturing undertakings also aid in creating better job opportunities for those moving out of the agricultural and rural background. Thus, it is essential for this sector to take the centre stage in order to offer appropriate job opportunities and compete effectively in the ever-changing global markets.

This study investigates the determining factors of capital structure as well as the utilisation of finances by Malaysian SMEs involved in the manufacturing sector. Moreover, by applying the concept of capital structure, the study also attempts to develop a verifiable hypothesis that can test the determining factors of capital structure in SMEs (independent small privately held companies with less than 200 employees). The determining factors of capital structure are made of various theoretical attributes, which are not accurately measurable. Therefore, proxy variables have been employed in this empirical investigation. Financial concepts have been created to explicate capital structure, using empirical data taken from large-listed companies which tend to substantiate these concepts. Financial structure tends to be a perpetual conundrum in finance (Myers, 1984). Originally, Modigliani and Miller (1958, 1963) suggested these to be important considerations required while making decisions pertaining to financial structure: the lower cost of debt as compared with equity; the growing risk and the cost of equity with the growing debt; and the advantage of the tax deductibility from the debt. They asserted that capital cost continued to be constant as the advantages of utilising low-cost debt were entirely counterbalanced by the rise in the rate of equity because of the rise in risk. Somehow though, the query as to whether these assertions are applicable to other firms, especially, medium and smaller firms have received little consideration. The size of the firm might also affect the presence or the extent of effect of particular financial conception of capital structure (Martinez, Scherger and Guercio, 2018). For instance, influences of scale pertaining to size might be applicable or linear only throughout particular sized firms.

Variations between large and small firms, with regards to financial structures and decision-making might also be a direct effect of the limited management skills and know-how of small firm proprietors, who generally function without taking professional advice for their day-to-day business operations. This matter, along with the direct effect of size but the restricted separation of business decision-making from the personal aims and possessions of the proprietors has been a recurring topic discussed in the SME texts (for a summary of these texts, see Cassar and Holmes, 2003 and Sogorb-Mira, 2005). Essentially, SME proprietors might have limited know-how of funding alternatives, while some alternatives may be unacceptable for individual reasons (for instance, a possibility of losing control over the decision-making process), and thus are not acceptable alternatives at all. These restrictions pertaining to preferences, know-how and likely supply may well adversely affect the application of available finance concepts to the SME sector.

The presence or extent of control of particular finance related concepts over the capital structure might also be shaped by the scale effects. For instance, scale effects pertaining to the size might only be relevant (or linear) to particular sized firms. Does the perceived greater risk or fluctuations in agency expenses like monitoring increase the effects on the role of asset structures of smaller firms? Likewise, the impacts of growth prospects for smaller scale firms are to be questioned because many of such firms might have brilliant growth prospects. Variations between large and small firms, with regards to financial structures and decisions, may also be resulting due to limited management skills and know-how of small firm proprietors, who generally function without taking professional advice for their day-to-day business operations.

However, there is only an insubstantial amount of research focusing on small, growing, up-and-coming firms and the determinants influencing the financial structure of these companies. It wouldn't be unfair to say that the empirical as well as theoretical capital structure studies have paid little attention to the SMEs. Nevertheless, this is an omission that requires immediate attention as capital structure and capital policy of small enterprises is an important topic of policy concern. Moreover, a lot of literature, especially on the non-success of small companies, has pinpointed financial leverage as an important reason for decline (Keasey and Watson, 1987; Mac and Lucey, 2010; Serrasqueiro and Caetano, 2015; Mc Namara, Murro, and O'Donohoe, 2017). Additionally, a lot of research examines if there are inter-industry variations in financial structures, basically due to variations in growth rates and asset structure. Empirical data of sectorial influences is ambivalent, with research both proving (López-Gracia, and Sánchez-Andújar, 2007; Hall et al., 2000; Sogorb-Mira, 2005) and unable to prove this proposition. Instances of the inability to prove this proposition are Balakrishnan and Fox (1993), who deduce that firm-specific attributes play a more vital role than structural attributes of any industry, and Jordan et al. (1998), who found that strategic and financial factors have much higher explanatory influence than industry-specific factors.

This research studies the determining factors of financing decisions (related to capital structure) of Malaysian SMEs in the manufacturing industry. It is a vital study field which needs exploration – by investigating the capital structures of firms in relevance to the Malaysian framework keeping in view the vital part the private sector is required to perform as the engine of development. Malaysia is now putting the 2012-2020 SMEs Master Plan into practice. This Master Plan is outlined in accordance with the World Bank Group. It is portrayed by the Malaysian Prime Minister as a "game changer". It includes a structured plan to enhance the development of SMEs. The plan conveys the government's commitment towards enhancing private sector-led growth. It is anticipated that the conclusions of this research will have major policy implications for SMEs in Malaysia.

The remaining paper is structured as follows. Section 2 presents a literature review (theory and evidence) on the indicators of capital structure. The empirical approach is discussed in Section 3. Section 4 talks about the results and conducts a discussion. The conclusions are provided in Section 5.

LITERATURE – THEORIES OF CAPITAL STRUCTURE

Usually, the theoretical fundamentals formulating the financial choices and capital structure of large companies also apply to SMEs. These fundamentals can be explained either as a static trade-off decision or a hierarchical structure. Static trade-off decisions cover numerous points, such as the subjection of the company to bankruptcy and agency expenses countering the tax advantages linked with the use of debt. Bankruptcy expenses are the expenses directly suffered when the perceived possibility that the company will be unable to repay the financing is more than zero. One type of bankruptcy expenses is liquidation expenses, which reflect the reduction of value as a consequence of dissolving the net assets of the company. Liquidation costs diminish the returns to the lender, if a company is unable to make monetary payments and becomes bankrupt. Keeping in mind the diminished returns, financers will, ex-ante, modify the expense of financing to the company to cover this future loss of value. As a result, companies will suffer greater financial expenses owing to the future dissolution expenses. These expenses change cross-sectionally between companies depending on the tangibility, size and generalised ability of the assets listed in the balance sheet of the companies. Companies have to suffer these expenses even if only the non-lending stakeholders believed the company has a non-zero possibility of getting discontinued; these expenses are known as distress costs. For instance, if a company is believed to be near bankruptcy, consumers will be less keen on buying goods or services because there is a risk that the company will not be able to fulfil its warranty commitments. Likewise, job-seekers will not be keen on working for such a business, or suppliers will be less inclined to offer trade credit. All these reactions of the interested parties essentially diminish the worth of the company. Therefore, companies which are likely to have greater distress costs generally have arrangements to reduce outside financing in order to decrease these costs. Considering these insolvency expenses, the company's operating risk also affects the capital structure decision of the company, in as much as companies with greater operating risk are bound to incur greater insolvency costs; this makes the direct and indirect costs related to external financing higher for these high-risk companies.

A further aggravating factor that studies have observed is that high growth companies tend to exhibit operating and financial profiles similar to bankrupt companies (Hutchinson and Ray, 1986; Hutchinson and Mengersen, 1989). This may lead to influencing the financing choices of high growth companies. The utilisation of debt in the company's capital structure also brings about agency costs. Agency costs are those expenses which are incurred to maintain the principle-stakeholder relationship, like the one between the managers or equity-holders of the company and its debt-holders. Basically, keeping in view of the company's likelihood to serve the equity-holders at the debt-holders' expense, debt-holders require to monitor and constrict the company's behaviour. As a result, expensive monitoring methods (or contractual clauses) are introduced into debt agreements in order to safeguard the debt-holders from this conceivable behaviour. All these contractual clauses add to the cost of capital extended to the company. In order to eliminate these increased costs, high growth companies try to bring in lesser external leverage and debt financing. Such companies should also consider the tax advantages related to the use of debt within the limits of the unchanging trade-off structure. This advantage can be availed, because the interest on external debts is tax deductible, while the dividend payable to equity-holders is not tax deductible. Thus, this element of tax benefit promotes the company's debt use, as the increased debt will increase the after-tax earnings for the proprietors. Nevertheless, the proprietors' or investors' probable tax liabilities due to the likely allegation of the company's returns and the proprietors' effective minimal tax rate ought to be encompassed in these trade-off issues.

The pecking order theory postulates that companies follow a specific selection order for funding alternatives chosen to capitalise the company (Myers, 1984). Particularly, owing to the existence of information imbalances between the company and the prospective financers, the relative value of finance can differ between the financing decisions. For instance, internal funding, where the funds come from sources like retained profits or inputs from existing partners, are bound to possess more knowledge about the company as compared to new equity holders. Therefore, the new equity holders deem to look for a greater percentage of return on their capital investment, causing the new equity funding to be costlier to the company than the funding derived from existing internal sources. Likewise, it can be argued that a similar relationship exists between internal funding and new debt-holders. Furthermore, the higher the subjection to the threats related to the information imbalances for the different external funding choices available, the greater the return of capital necessitated by respective source. The company will choose internal funding over external debt, short-term borrowing over long-term borrowing, and any debt rather than procuring outside equity. Obviously, if the information imbalances are greater for certain companies, the variation in the cost of capital pertaining to different financing alternatives widen and the pecking order inclination of the company becomes more conspicuous.

Apart from these issues, most funding choices come with transaction expenses. For instance, when a company applies for loans, it has to pay application plus start-up charges (Holmes, Dunstan and Dwyer, 1994). Thus, often times, a company must bear additional costs when it chooses to modify its funding structure. As a result, companies may choose not to alter the funding structure because they have a disincentive to move between funding choices. Also, because of the functioning and the size of the company, SMEs may be influenced by market access, wherein their revenues and size make some funding choices either inaccessible or transaction expenses very expensive to incur.

Firm characteristics and financing

Considering the above hypothesis, the following factors are found to be connected with capital structure. The hypothesis also suggests that firm-specific variables may also affect the debt extent of a company. Circumstantial financial factors are also to be considered as they might influence the riskiness, flexibility and managerial constraint of the company. Due to these causes and their incorporation in earlier financial empirical works, size of the company, profitability, tangible assets, sales growth, age of the company, risk and non-debt tax are found to be connected with capital structure.

Profitability

Financial studies are in discord as far as the influence of profitability on a company's debt ratio is concerned. On one hand, the trade-off hypothesis sees an optimistic association between debt and profitability; greater profitability indicates greater debt capacity. On the other hand, Myer (1984) theorises that managers adhere to a pecking order wherein preference is given to accumulated earnings, then comes debt, followed by equity. As per Myer's hypothesis, there is a negative association between debt and profitability, as more profitability

indicates a higher dependence on internal funds and thus a proportionately lesser use of external debt (Sardo and Serrasqueiro, 2017). Friend and Lang (1988) and Kester (1986) deduce that a noteworthy negative correlation exists between debt and profitability. Wald (1999), Rajan and Zingales (1995) and Booth et al,. (2001) detect a drastically negative correlation between debt and profitability ratios for the UK, the USA and Japan. In this research, an equation of EBIT to total assets is employed as a substitute for profitability, where Rajan and Zingales (1995), Ozkan (2001), Ooi (1999), Gaud et al. (2005) and Gonz áez and Gonz áez (2008) employed it as a signaller of profitability.

Firm Size

Castanias (1983) and Shapiro and Titman (1985) contend that owing to a threat of bankruptcy, proprietors are unlikely to choose debt. Be that as it may, as larger companies have the scope to be more diverse, they face comparatively lesser threat of bankruptcy. Warner (1977) and Titman and Wessels (1988) maintain that liquidation expenses would be more for smaller companies. Their reasoning proposes that bigger companies ought to be extremely leveraged. Marsh (1982) infers that larger companies go for long-term debt, while smaller companies go for short-term debt. The influence of the size of a company on leverage thus remains inconclusive. In this regard, there are numerous researches studying the influence of size on leverage choices. Rajan and Zingales (1995) observe that higher the size, higher is the financial leverage. Crutchley and Hansen (1989) and Friend and Hasbrouck (1988) observe a positive relationship. They explain this observation by justifying that size is a converse substitute for the possibility of insolvency. As sizable companies are able to diversify more freely, the possibility of getting in financial difficulty reduces. On the other hand, Feri and Jones (1979) theorise that a company's size has a considerable effect on leverage even if the sectorial choices have been noted to vary among different industries. Titman and Wessels (1988) and Kim and Sorensen (1986) suggest an unfavourable relationship between leverage ratios and size, but Halit Gonenc (2003) and Pandey (2000) adhere to the positive correlation between leverage ratios and size. Considering these diverse viewpoints, it is challenging to determine an open-and-shut sign of the relationship between the size of a company and its leverage. A company's size is a natural logarithm of its overall assets.

Growth

According to the pecking order hypothesis, growing enterprises prefer internal funding to external fund generation. However, flourishing companies tend to look for external funding sources. It only makes sense that flourishing companies should go for short-term less secured loans rather than procuring long-term highly secured debts to finance their growth. This would mean that companies having relatively greater growth rate have higher leverage. Additionally, there exists a relation between the rate of earlier growth and growth in the upcoming times. Michaelas et al. (1999) assert that the scope for growth in future is positively connected with leverage – especially short-term leverage. They state that the agency costs and later the financing costs diminish if the company issues short-term debt instead of long-term debt. For this, a counter argument is found in Myers' (1977) work, where it is argued that this kind of issue is serious, especially for assets that allow the company the choice to seize future growth opportunities. The more the company's investment in these assets, the lesser the ratio of debt finance, pointing at a negative correlation between gearing and scope for growth. Myers (1977) also offers a solution to this. He suggests that the problem of agency can be tackled if the company procures short-term debt instead of long-term debt. This could mean that short-term debt percentages must actually have a positive correlation with growth rates if upcoming companies replace short-term funding with long-term financing. Myers' (1977) proposition seems more relevant to the small businesses where the compromise between independent decision-making and availability of loans is very likely to get emphasised and where most of the debt is short-term. Michaelas et al. (1999) perceive a positive correlation between future growth and long-term debt and leverage, while Jordan et al. (1998) and Chittenden et al. (1996) have observed mixed evidences. Although the static compromise concept does not make a definitive prognosis, as per the pecking order hypothesis, there ought to be a positive correlation as a greater growth indicates a greater requirement of funds and thus more dependence on external funding through any favoured point of supply of debt.

Collateralisable Value of Assets (COVA)

Most capital structure hypotheses postulate that the kind of assets held by a company influences its decisions related to capital structure. The static trade-off hypothesis argues that companies that hold tangible assets which can be offered as collateral are likely to issue higher debt (Myers, 1984; Titman and Wessels, 1988). This has connections with agency costs, which play a vital role in the decisions related to the capital structure of the company. Agency costs are the costs that depend on the proprietors' discretion about spending the surplus cash on perks at the equity-holders' expense. However, these tendencies of proprietors are kept in check by debt as it reduces the extent of free amount available at hand for reckless spending (Jensen, 1986). For this reason, the structure of a company's assets influences its capacity to indulge or not indulge in such excesses. Thus, it can be said that more tangible assets a firm holds, the greater is its capability to deliver secured debt. This restrains the power of managers to disburse the funds of the debt holders. This means that companies holding more fixed assets are able to deliver more debt, as compared to companies holding fewer fixed assets.

Agency costs must be thoroughly scrutinised within the SME framework. In most cases, owners are also the managers of their companies; thus, agency costs related to equity are actually non-existent. However, there can be severe agency costs related to debt (Ang, 1992). Van der Wijst and Thurik (1993) note that fixed assets are usually believed to provide higher security as compared to current assets. Furthermore, among the fixed assets too, physical assets offer more security to debt-holders as compared to the non-physical assets. Consequently, companies with higher amount of tangible assets are likely to have a better chance at bank credit and thus they are able to procure more debt. This theory is also backed by the presence of high levels of imbalanced information available in SMEs, which makes lenders ask for guarantees in the form of collateral (Myers, 1977; Harris and Raviv, 1991). The research uses the percentage of fixed assets to total assets as the barometer of the company's asset structure and prefers it to be positively correlated to debt ratios. Pandey et al. (2000) observe a positive relation between debt and physical assets.

Age of the firm

A firms' age is a customary measure of goodwill in capital structure models. As a company spends more years in a business, it confirms itself as a developing business and thus its scope to procure more debt increases; hence, a company's age has a positive correlation with debt. Before sanctioning a loan, banks measure the trustworthiness of businessmen as they tend to put great hopes on high-risk projects that promise greater profitability rates. Especially, the highly indebted firms are basically gambling their lenders' money. If the project is successful, equity-holders get a handsome share of the proceeds, but if the project is not successful, then the consequences have to be borne by the creditors (Myers, 1977). To deal with the issue of measuring the trustworthiness, Diamond (1989) suggests considering the goodwill of the company. A company's goodwill is its reputation, the good image a company has created over the years; the brand is accepted by the market, which has witnessed the company's abilities to fulfil its responsibilities from time to time. Decision-makers who are concerned about the company's goodwill tend to take prudent decisions by avoiding riskier projects and favouring safer projects, even if the shareholders sometimes may not approve of the safer projects. Thus, these managers are able to reduce debt agency costs (by not getting "tempted" to gamble the cost of their creditors).

Non-Debt Tax Shields (NDTS)

Non-debt tax shields (NDTS) or interest tax shield is one among the other ways of minimising corporate tax liabilities. The availability of NDTS serves to be an optional way of cutting down on income tax and might result in mitigating the advantage of debt tax shields. Graham (2000) and Masulis and De Angelo (1980) suggest that tax abatements for depreciation of assets and investment tax credits serve as alternatives for the tax benefits related to debt financing. Companies with greater NDTS tend to use lesser debts in their capital structure because of a positive correlation between tax shields related to investment and the possibility of missing the deductions related to debt tax shields. The static trade-off concept foresees a negative correlation of the debt equity ratio. In spite of tax being tax deductible because of default risk, companies may turn to using other tax shield options. Masulis and DeAngelo (1980) suggest that non-debt tax abatements work in place of the tax shield advantages of debt. Bradley et al. (1984) detect a positive factor on depreciation of assets while MacKie-Mason (1990) detects a negative factor. Effectual tax rate is described as taxes given over earnings before taxes (EBT) (Sogorb-Mira 2005; Degryse, Goeij and Kappert 2009). As per the trade-off hypothesis, companies go for debt financing

because of interest tax shields (Modigliani and Miller 1963). The greater the effectual tax figure, the higher the incentives companies get to make from interest tax shields. For this reason, effectual tax rate must be in positive correlation with the leverage ratio. Yet, earlier research on capital structure of SMEs observes an inverse correlation (Michaelas, Chittenden and Poutziouris 1998; Sogorb-Mira 2005; Degryse, Goeij and Kappert 2009). Therefore, effective tax rate should be negatively related to the leverage ratio.

Risk

One of the main determinants of a company's capital structure is the level of risk (Kale et al., 1991). The tax shelter-bankruptcy cost concept of financial structure establishes a company's optimum leverage as a coefficient of business risk (Castanias, 1983). Considering the liquidation and agency expenses, there are reasons that a company does not fully exploit the tax advantages of 100% debt inside the static framework design. The greater the likelihood of a company being exposed to such expenses, the higher is their motivation to lower the ratio of debt within their capital framework. One strong factor influencing this exposure is a company's operating risk, wherein the more unpredictable a company's income stream, the bigger the possibility of the company backing down and getting exposed to such expenses. As observed by Johnson (1997), companies with greater unpredictable income growth are more likely to come across circumstances where cash flows are inadequate for debt service. According to Kim and Sorensen (1986) and Ang, Cole and Lin (2000), companies that have a greater possibility of business risk possess a lower ability to bear financial risks and hence they don't go for higher debt. Although there is a broad agreement that firm risk is a major determining factor of a company's debt policy, empirical studies indicate contradictory observations. A number of investigations have noted a negative correlation between debt ratio and risk (Bradley et al., 1984; Titman and Wessels, 1988; Friend and Lang, 1988; MacKie-Mason, 1990; Kim et al., 1998). On the other hand, there are some studies that have noted a positive correlation (Jordan et al., 1998; Michaelas et al., 1999). Esperança et al. (2003) have also noted positive correlation between firm risk and long-term as well as short-term debt. Companies having relatively greater operating risk tend to have incentives for lower leverage than other companies with more stable income. Somehow, the inadequate empirical studies between leverage and risk for SMEs indicate a positive instead of a negative correlation (Jordan et al., 1998; Michaelas et al., 1999).

EMPIRICAL METHODOLOGY

Data

The data for this study is obtained from the Inland Revenue Board of Malaysia (IRBM). IRBM is an agency under the ministry of finance that collects direct tax for Malaysian government. In the selection of SMEs, we follow the Income Tax Act (ITA) of Malaysian Government definition for SMEs that was adopted for manufacturing sectors. The definition of SME is qualifying threshold for two criteria: sales turnover and employment for sectors and size of operation. According to this the definition, an establishment is classified as a SME if sales turnover is less than RM50 million (previously RM 25 million) or employs less than 200 (previously 150) full time employees, in the manufacturing sector and firms that have a paid-up capital in respect of ordinary share of RM2.7 million and less at the beginning of the basis period for a year of assessment which exclude firms with more than fifty percent of paid-up capital in respect of ordinary share of the company which is directly or indirectly owned by a related company. Following the above definition, only SMEs that fall under corporate taxpayers, which implies that only private limited or public limited firms are included in this study. The number of firms is 807 in the sample and the observation period is 2007-2015 fiscal year 9. The sample consists of balance panel data. Totally, we obtain 7263 observations. Our data excludes the following:

a) a company that is public-listed in main board in Malaysia or other countries; or/and
b) a subsidiary of public listed company in main board in Malaysia or other countries, or/and
c) a subsidiary of large firms, multinational corporations, government-linked companies, ministry of finance incorporated companies, and state-owned enterprise

Econometric approach

Studies in the literature show that leverage ratio is used as the dependent variable. The dependent variable that we use is the debt to assets ratio. The debt ratio is defined as the ratio of total liabilities divided by the total assets of the firm (e.g. Rajan and Zingales, 1995). Total liabilities contain both long-term and short-term liabilities. The use of the debt ratio as the model's dependent variable assumes that other forms of financing, such as trade credit, are used to finance the firm and not just for working capital purposes. This is verified by several studies in the field of SMEs' capital structure determination. Petersen and Rajan (1997) say that trade credit functions as a substitute for long-term bank loans and as supplement for short-term bank lending when credit from financial institutions is unavailable. Carbó-Valverde et al. (2008) find that financially constrained firms do use trade credit for investments. Accordingly, three different models were established as dependent variable (Ajanthan, 2013; Arsov and Naumoski, 2016; Chang et al., 2014; Demirhan, 2009; Handoo and Sharma, 2014) of the study considering the ratio commonly used in the literature; Model 1 used the ratio of total liabilities to total assets (TOTAL DEBT), Model 2 used the ratio of long-term liabilities to total assets (LONG DEBT), and Model 3 used the ratio of short-term liabilities to total assets (SHORT DEBT) as the dependent variable. The models established within the scope of study are as follows.

$$\text{TOTAL DEBT}_{it} = \beta_0 + \beta_1\text{TOTAL DEBT}_{it-1} + \beta_2\text{PROB}_{it} + \beta_3\text{SIZE}_{it} + \beta_4\text{GROWTH}_{it} + \beta_5\text{TAX}_{it} + \beta_6\text{COVA}_{it} + \beta_7\text{RISK}_{it} + \beta_8\text{AGE}_{it} + \epsilon_{it} \quad (1)$$

$$\text{LONG DEBTt}_{it} = \beta_0 + \beta_1\text{LONG DEBT}_{it-1} + \beta_2\text{PROB}_{it} + \beta_3\text{SIZE}_{it} + \beta_4\text{GROWTH}_{it} + \beta_5\text{TAX}_{it} + \beta_6\text{COVA}_{it} + \beta_7\text{RISK}_{it} + \beta_8\text{AGE}_{it} + \epsilon_{it} \quad (2)$$

$$\text{SHORT DEBT}_{it} = \beta_0 + \beta_1\text{SHORT DEBT}_{it-1} + \beta_2\text{PROB}_{it} + \beta_3\text{SIZE}_{it} + \beta_4\text{GROWTH}_{it} + \beta_5\text{TAX}_{it} + \beta_6\text{COVA}_{it} + \beta_7\text{RISK}_{it} + \beta_8\text{AGE}_{it} + \epsilon_{it} \quad (3)$$

The independent variables and measurement indicators used in the study are as follows.

AGE = Logarithm Age of the firm at the time since date of incorporation.
SIZE = Logarithm Total assets.
PROB = Ratio of pre-tax profits to total.
GROWTH = Difference between the logarithms of sales.
RISK = operating risk is defined as the coefficient of variation in profitability over the whole period: 2008 – 2017.
COVA= Ratio of fixed assets to total assets.
TAX = Ratio of depreciation charges to total assets is included in the analysis to indicate the tax advantage.

We estimate our empirical models using dynamic panel data system Generalized Method of Moment (SYS-GMM), which accommodate the analysis of panel data with repeated, within-subject measures (Ballinger, 2004). The main reason is due to leverage ratio of the firm being an autoregressive character and the current debt is partly composed of the debt in past periods. SYS-GMM accounts for remaining unobserved heterogeneity across firms and further account for the lack of independence across observations for the same firm. Pooled estimates would not be consistent due to the correlation between the regressors and the error term (Baltagi, 2008). For this reason, the empirical analysis to contrast the hypotheses is performed with panel data analysis, using a dynamic model that includes a lagged dependent variable. The SYS-GMM allows control of the individual unobservable heterogeneity between different firms and eliminates the risk of obtaining biased results. Particularly, in this study the SYS-GMM estimator is used, which is the most appropriate method for estimating a panel with the lagged dependent variable. The system GMM estimator provides a consistent estimator that increases the level of efficiency while maximising the information incorporating a greater number of instruments (Arellano and Bond, 1991). This method of estimation is indicated for the use of micro panels, which is very common in the study of social sciences (Baltagi, 2008).

Our dependent variable is measured to use a robust dynamic specification to control the possibility of unobserved firm-specific effects correlated with the regressors in our Equation 1, 2, and 3. De Grauwe and Skudenly (2000) mention that the lagged dependent variable in the dynamic panel data estimation catches up some of the effects of omitted variables varying over time, so applying this method helps to correct for the autocorrelation. The robust SYS-GMM applied in this study is proposed by Arellano and Bover (1995) and Blundell, Bond and Windmeijer (2001) while the Monte Carlo estimations show that the estimators behave better than the GMM difference estimators proposed by Arellano and Bond for both short sample period and variables persistent over time. Roodman (2006) states that the Arellano–Bond estimators have one and two-

steps variants and the reason is that the two-steps estimate of the standard errors tends to be severely downward biased. Therefore, the researchers apply the finite sample correction for the asymptotic variance of the two-step GMM estimator.

EMPIRICAL RESULTS

Table 1 depicts the descriptive data of the factors, while Table 2 depicts the correlation model of the independent factors. The relationship between independent factors might give rise to problems in deciphering regression coefficients. This is a problem of data and not of model specification. The Pearson product-moment correlation coefficients shown in Table 2 depict the volume and angle of the relationship between independent factors. Wherever the independent variables correlate at the 0.05 level of significance, the null assumption is that there exists no correlation between the factors is variables. The moderate volume of the correlations suggests the absence of a high percentage of first-order correlation between the independent variables. Despite the volume of the correlation coefficients being moderate, an absence of high correlation figures does not mean that correlation does not exist because the joint effect of more than one independent variable might cause multicollinearity. Conventionally, multicollinearity is measured using the variance inflation factor (VIF) and tolerance. The tolerance value is an independent factor's predictive ability which has not been measured by other independent variables in the equation. When the tolerance value is 1.00, it means that a factor is not at all affected by other independent factors. A scrutiny of the VIFs and tolerance values in Table 3 denote that multicollinearity does not present a difficulty.

Table 1 Descriptive Summary Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
TOTAL_DEBT	7,263	0.1207589	0.1633101	0	1.885714
LONG_DEBT	7,263	0.0537724	0.0905724	0	0.7702703
SHORT_DEBT	7,263	0.0669607	0.1219982	0	1.885714
GROWTH	7,263	0.0000531	0.2968965	-3.88303	3.213558
PROB	7,263	0.3855798	0.8184742	-0.33962	36.61972
COVA	7,263	0.2709647	0.2338581	0	4.803107
TAX	7,263	4.953004	0.8526529	0	7.477121
RISK	7,263	7.755038	0.1128289	0	9.423737
SIZE	7,263	15.71122	1.338278	11.15689	20.72327
AGE	7,263	3.303735	0.5273914	7	115

Table 2 Pearson correlation coefficients

	TOTAL_DEBT	LONG_DEBT	SHORT_DEBT	GROWTH	PROB	COVA	TAX	RISK	SIZE	AGE
TOTAL_DEBT	1									
LONG_DEBT	0.6749*	1								
SHORT_DEBT	0.8366*	0.1608*	1							
GROWTH	-0.0075	-0.0100	-0.0024	1						
PROB	-0.5160*	-0.3300*	-0.0444*	0.0093	1					
COVA	0.2914*	0.3738*	0.1125*	-0.0084	-0.0447*	1				
TAX	-0.1155*	-0.0927*	-0.0862*	0.0126	-0.0021	-0.1585*	1			
RISK	-0.0240*	-0.0118*	-0.0233*	-0.0029	0.1948*	-0.6220*	0.3439*	1		
SIZE	0.0846*	0.0354*	0.0869*	-0.0062	-0.1639*	-0.0594*	0.6737*	0.02869*	1	
AGE	-0.1087*	-0.1345*	-0.0456*	0.0006	-0.1089*	0.0834*	0.0850*	0.0410*	0.2005*	1

* Correlation is statistically significant at the 95% level of confidence (two-tailed)

Table 3 Estimated Ordinary Least-Squares regression coefficients

	STATIC				
Variables	Model 1	Model 2	Model 3	Collinearity Statistics	
	TOTAL DEBT	LONG DEBT	SHORT DEBT	Tolerance	VIF
SIZE	0.0385***	0.0130***	0.0255***	0.04946	2.02
	(0.0019)	(0.0010)	(0.0015)		
RISK	0.00657	0.015	-0.00826	0.82871	1.99
	(0.0171)	(0.0093)	(0.0135)		
TAX	-0.0518***	-0.0162***	-0.0357***	0.50322	1.21
	(0.0029)	(0.0016)	(0.0023)		
COVA	0.197***	0.146***	0.0503***	0.96254	1.04
	(0.0077)	(0.0042)	(0.0061)		
GROWTH	0.000239	-0.00105	0.00139	0.99314	1.01
	(0.0059)	(0.0032)	(0.0047)		

Table 3 Cont.

PROB	-0.00152	-0.00106	-0.00043	0.89533	1.12
	(0.0023)	(0.0012)	(0.0018)		
AGE	-0.0537***	-0.0332***	-0.0205***	0.94344	1.06
	(0.0034)	(0.0019)	(0.0027)		
Constant	-0.154	-0.116*	-0.0392		
	(0.1280)	(0.0698)	(0.1010)		
Observations	7,263	7,263	7,263		
Adjusted R-squared	0.1584	0.1875	0.0601		
F Value	196.19	240.48	67.38		
Significance of F	0.0000	0.0000	0.0000		

Noted: t-Statistics in parentheses. *, **, *** Statistically significant at the 90%, 95% and 99% level of confidence, respectively.

The first stage of this study is to provide first-hand empirical evidence of the varied correlations between various levels of firm characteristics and leverage. TOTAL DEBT, LONG DEBT and SHORT DEBT have been used to measure the leverage ratios (see Table 3). Three different criteria have been used to ascertain whether the outputs are affected by specific leverage indicators. The outcomes have been compared employing the system GMM evaluator with the outcomes from fixed-effects and static OLS models so as to work out the differences which might emerge when the dynamic nature of these correlations is ignored. Additionally, to determine a specific correlation between firm characteristics and different leverage ratios in SMEs, a traditional fixed-effects prototype has been used.

Tables 3 and 5 depict fixed-effects estimates and static pooled OLS while Tables 4 and 6 depict fixed-effect and dynamic pooled OLS. Finally, the system GMM estimates are depicted in Table 7. For the system GMM estimates, the two standard tests on misspecification, namely the Hansen test of other-identifying restrictions and the AR (2) test (the second-order serial correlation test), have been employed.

Table 4: Estimated Ordinary Least-Squares regression coefficients

	Dynamic		
	Model 1	Model 2	Model 3
Variable	TOTAL DEBT	LONG DEBT	SHORT DEBT
TOTAL $DEBT_{t-1}$	0.852***		
	(0.0225)		
LONG $DEBT_{t-1}$		0.787***	
		(0.0200)	
SHORT $DEBT_{t-1}$			0.828***
			(0.0344)
SIZE	0.00644***	0.00337***	0.00456***
	(0.00146)	(0.00077)	(0.00129)
RISK	0.00273	0.00409	-0.00039
	(0.00842)	(0.00495)	(0.00723)
TAX	-0.00993***	-0.00443***	-0.00752***
	(0.00239)	(0.00123)	(0.00213)
COVA	0.0386***	0.0417***	0.00664
	(0.00791)	(0.00616)	(0.00413)
PROB	-0.0005	-0.00110***	0.000541
	(0.00152)	(0.00043)	(0.00149)
Growth	0.00372	0.00143	0.0023
	(0.00277)	(0.00158)	(0.00233)
AGE	-0.0107***	-0.00819***	-0.00522***
	(0.0026)	(0.00158)	(0.00202)
Constant	-0.0308	-0.0333	-0.00684
	(0.0657)	(0.0414)	(0.0535)
Observations	6,456	6,456	6,456
R-squared	0.785	0.691	0.736
Adjusted R-squared	0.7850	0.6913	0.7360
F Value	724.98	477.25	272.47
Significance of F	0.000	0.000	0.000

Noted: t-Statistics in parentheses. *, **, *** Statistically significant at the 90%, 95% and 99% level of confidence, respectively.

Table 5 Fixed Effect regression coefficients

	Static		
	Model 1	Model 2	Model 3
Variables	TOTAL DEBT	LONG DEBT	SHORT DEBT
SIZE	0.0392***	0.0363***	0.00294*
	(0.003520)	(0.002470)	(0.002750)
RISK	0.0198**	0.00347	0.0165**
	(0.009840)	(0.006890)	(0.007680)
TAX	-0.0105***	-0.00317**	-0.00751***
	(0.0020)	(0.0014)	(0.0016)
COVA	0.120***	0.111***	0.00872
	(0.0076)	(0.0053)	(0.0059)
GROWTH	0.00272	-0.00108	0.00394
	(0.0031)	(0.0022)	(0.0024)
PROB	0.00280**	-0.000122	0.00296***
	(0.0013)	(0.0009)	(0.0010)
AGE	-0.0332***	-0.00653*	-0.0269***
	(0.0073)	(0.0051)	(0.0057)
Constant	-0.520***	-0.537***	0.0152
	(0.0896)	(0.0628)	(0.0699)
YEAR	Yes	Yes	Yes
Observations	7,263	7,263	7,263
Number of firms	807	807	807
R-squared	0.058	0.094	0.010
F value	56.76	95.81	9.43
Significance of F	0.0000	0.0000	0.0000
Corr(u_i), xb	-0.0380	-0.3875	-0.0194

Note: Estimation also includes dummy for the years (2007–2015). *p<0.10; **p<0.05; ***p<0.01.

Table 6 Fixed Effect regression coefficients

	Dynamic		
	Model 1	Model 2	Model 3
Variable	TOTAL DEBT	LONG DEBT	SHORT DEBT
TOTAL DEBT	0.364***	0.404***	
	(0.03950)	(0.03090)	
LONG DEBT		0.404***	
		(0.03090)	
SHORT DEBT			0.283***
			(0.05930)
SIZE	0.0303***	0.0271***	0.00193
	(0.01120)	(0.00478)	(0.01090)
RISK	0.0103***	0.00380**	0.00780***
	(0.00278)	(0.00189)	(0.00252)
TAX	-0.00727***	(0.00220)	-0.00535***
	(0.00220)	(0.00173)	(0.00163)
COVA	0.0939***	0.0833***	0.00707
	(0.02800)	(0.02360)	(0.00687)
PROB	0.00267	(0.00041)	0.00326
	(0.00219)	(0.00028)	(0.00228)
GROWTH	0.00380	(0.00011)	0.00433**
	(0.00253)	(0.00164)	(0.00208)
AGE	-0.0347**	-0.0170**	(0.01950)
	(0.01350)	(0.00789)	(0.01200)
Constant	-0.356**	-0.378***	0.04380
	(0.16100)	(0.07350)	(0.15400)
Observations	6456	6456	6456
Number of firm	807	807	807
R-squared	0.19600	0.25700	0.09500
F value	33.18	40.06	29.92
Significance of F	0.0000	0.0000	0.0000
Corr(u_i), xb	0.5174	0.0492	0.8106

Note: Estimation also includes dummy for the years (2007–2015). *p<0.10; **p<0.05; ***p<0.01

The calculations for the estimated values in these tables have been taken from typified variables. Therefore, in Table 7, the coefficients of the variables are regularised coefficients (β). This makes it possible to define the dependent variable by figuring out which explanatory variable has higher value. The dynamic system GMM estimator furnishes data about the lagging dependent variable. As for the TOTAL $DEBT_{t-1}$, it has a significantly positive correlation with TOTAL $DEBT_t$ with a 95% level of significance. Moreover, we also see a positive correlation between SHORT $DEBT_{t-1}$ and SHORT $DEBT_t$ at a 95% level of significance, and LONG $DEBT_{t-1}$ and LONG $DEBT_t$ in at a 90% level of significance. Thus, it can be seen that the leverage ratio of the firm in year t is greatly influenced by the leverage ratio of the firm in year t−1.

Table 7 Estimated System GMM regression coefficients

	Model (1)	**Model (2)**	**Model (3)**
Variables	TOTAL_DEBT	LONG_DEBT	SHORT_DEBT
$TOTAL\_DEBT_{t-1}$	0.215***		
	(0.0512)		
$LONG\_DEBT_{t-1}$		0.318***	
		(0.0613)	
$SHORT\_DEBT_{t-1}$			0.170***
			(0.0426)
SIZE	0.152***	0.0743***	0.0857***
	(0.0423)	(0.0283)	(0.0304)
RISK	0.0704	-0.0211	0.0422
	(0.0591)	(0.266)	(0.0822)
TAX	-0.0785*	-0.0157*	-0.0847**
	(0.0419)	(0.0225)	(0.0348)
COVA	0.698***	0.524***	0.327**
	(0.163)	(0.0908)	(0.134)
GROWTH	0.115*	0.0533	0.0761
	(0.0589)	(0.0327)	(0.0520)
PROB	0.0000894	-0.000860	0.00155
	(0.0303)	(0.00559)	(0.00248)
AGE	-0.188***	-0.0800**	-0.179***
	(0.0543)	(0.0361)	(0.0510)
CONSTANT	-2.006***	-0.762	-0.698
	(0.709)	(1.961)	(0.799)
YEAR	Yes	Yes	Yes
Observations	6,456	6,456	6,456
Number of Firms	807	807	807
Number of Instruments	38	38	38
Wald Test	133.19(0.000)	263.02(0.000)	98.58(0.000)
AR1	12.78(0.005)	-2.69(0.007)	-4.10(0.000)
AR2	-0.60(0.551)	-1.39(0.165)	0.05(0.958)
Hansen Test	32.16(0.313)	36.85(0.150)	30.45(0.392)
Difference – in - Hansen Test	1.42(0.492)	1.93(0.380)	1.31(0.519)

Notes: *, **, *** Statistically significant at the 90, 95% and 99% levels of confidence, respectively.

The significantly positive coefficient of the lagging dependent variable affirms that various levels of leverages are persistent. For instance, financial leverage heavily relies on its own past achievements. The calculations for the characteristics of a firm rely on the prototype used. It can be observed that some biases may be created when undetectable heterogeneity (pooled OLS prototype) and firm characteristics and the dynamic varied level of leverage (fixed-effects model) are ignored. For example, the OLS and fixed-effects calculations indicate that there is no correlation between the growth rate of a company and its total debt, while the system GMM calculations display a positive correlation. Thus, these dynamics ought not to be ignored when estimating the correlation. As the OLS estimates and fixed-effects prototype are likely to give biased outcomes, the discussion will be focused on the system GMM outcomes (refer to Table 7).

Table 8 Comparison of theoretical expectations with findings

Measurement Indicator	**Pecking Order**	**Trade-off**	**Model 1**	**Model 2**	**Model 3**
SIZE	-	+	+	+	+
RISK	-	-	**0**	**0**	**0**
TAX	**NA**	-	-	-	-
COVA	-	+	+	+	+
PROB	-	+	**0**	**0**	**0**
GROWTH	+	+	+	**0**	**0**
AGE	-	+	-	-	-

Notes: + signifies that leverage increases with the factor. - means that leverage decreases with the factor. 0, means no relations between leverage and the factors.

Table 7 depicts the estimated outcomes of the prototype suggested to assess the effect of the company's features on the TOTAL DEBT, SHORT DEBT and LONG DEBT. The specification test has proved the proper application of the system GMM estimator. The AR1 (test of first-order autocorrelation) which has a p-value less than 0.05 signifies that dynamic effects do exist (Arellano and Bond, 1991). Also, the AR2 test confirms that a second-order autocorrelation doesn't exist with a p-value greater than 0.05. The Hansen test confirms that there exist no over-identified equations where p-value is greater than 0.05, and the Wald test having p-values lesser

than 0.05 confirm the combined importance of the hypothetical time dummies. After authenticating the proper use of the estimation system suggested for this research, the outcomes are explained below.

Table 8 depicts sign assumptions on independent factors and recognise indicators of models 1, 2 and 3 in trade-off and pecking order theories. For these models, the significant and positive correlation between the size of the firm and dependence on leverage ratio is in accordance with the notation that the bigger the firm, the lesser is the possibility of failure, because bigger firms have the scope for commercial success through diversification and availability of assets for collateral. The firm size factor demonstrates outcomes that adhere to the trade-off hypothesis, which states that large-scale companies are likely to utilise more external finances as compared to small-scale companies. It is easier for large-scale companies to borrow and that too with lower interest rates because of the assets that they can provide as collateral; also, the earnings of such companies have a comparatively steadier trend.

As already anticipated, the value of the asset tangibility factor is significant and positive for the estimation of panel data. The empirical data indicates that companies use both tangible and fixed assets as guarantee when they bargain for the interest rates for long-term bank borrowing. SMEs which have a greater ratio of tangible assets in their overall assets are likely to get bank loans more easily as compared to those companies that do not have a greater tangible assets ratio. This clearly means that banks put a great emphasis on fixed assets for collateral before providing loans to companies. Banks and other external financing agencies usually identify SMEs as risky undertakings, and thus they emphasise on sufficient guarantee to curtail the risk factor. This appears to back the findings of Ang et al. (1995), August et al. (1997), Berger and Udell (1998) and Cassar and Holmes (2003).

The findings of our study indicate that Malaysian SMEs that feature high asset values have ready access to funding from banks. Relatively smaller firms represent higher risks, which could dissuade financial institutions from lending funds to them. Larger firms may feature well-structured processes, suggesting sufficient information exists for financial institutions to grant them credit. The asymmetric costs of channelling information among corporations and banks could therefore be lower for larger firms. This follows the hypothesis as well as supports the findings of Aryeetey et al. (1994) and Paulo et al. (2003), who found higher success rates among larger firms that apply for loans than among smaller firms. The asset structure variables lead to findings that follow the agency and trade-off theories for the three models. Therefore, the ability to present tangible fixed assets as guarantees for borrowings and thus obtain external financing at lower costs renders this association positive.

Positive relationships have been discovered between growth alternatives and total debt-to-asset ratios, but not among short and long-term debt measures, as confirmed via empirical testing. As argued by Pinegar and Wilbricht (1989) and Baskin (1989), a typical SME lacks in internal fund generation and must apply for external funding. New equity flows may not be possible and may even generate negative signals to markets (Myers and Majluf, 1980). Stronger informational asymmetry, particularly during initial offerings, undervalues the securities of small firms, which leads to a dilution of valuations for previous shareholders. Furthermore, the owners of many small Malaysian firms would resist sharing of control as well as ownership. The associations between debt-to-asset ratios and growth alternatives were shown to be meaningfully positive (Sherr and Hulburt, 2001), which supports pecking-order theories.

The age variable displays a negative sign (whereas positive signs are expected given the discussion found in section 2) but in a statistically-meaningful association. Age is meaningful at the 1% threshold and is negatively correlated with the total leverage ratio. The results show that firm age has a part in explaining sample leverage ratios. This test disproves the predictions of trade-off theory, which describe older organisations as having better reputations and more experience and also benefiting from lessened agency costs due to more positive market signals. On the other hand, it sustains pecking-order theory predictions in that the older a Malaysian SME is, the faster its cash flow rises and the less it relies on external funding. This negative association among leverage and age ratios follows the findings of Adair and Adaskou (2011), Huynh and Petruni (2010) and also Kieschnick and Moussawi (2011). Earlier and more experienced organisations require fewer external funds since they rely more on internal financing during past activities, whereas younger SMEs typically acquire higher debts than their earlier counterparts. Corporations tend to prioritise internal funding sources, including retained earnings (Timmons and Spinelli, 2004). Conversely, profitability and firm risk effects do not emerge. The coefficient remains positive although not meaningful. Against our expectations, the non-

significance of risk and profitability variables has not enabled the confirmation or rejection of hypotheses in accordance with the predictions of the agency, trade-off, and pecking-order theories.

DISCUSSION AND CONCLUSION

Modigliani and Miller (1958) in their irrelevance model proposed that corporate valuations remain independent of capital structures within fully competitive markets, whereas much of the theoretical as well as empirical research has covered the influence of the arrangement of capital structures on the market values of firms. The emphasis of these papers is on each factor that defines capital structures, in how and in which direction each influences the debt level of a firm. Contextually, two well-accepted theories have been found in the literature on financing with regards to capital structures. These are pecking-order and trade-off theories. The pecking-order theory states that firms follow certain hierarchies in funding decisions as a result of asymmetric information availability among corporate stakeholders. Internal funding is therefore usually preferred over external funding. Meanwhile, agency theory accords with another problem as a result of informational asymmetry, i.e. agency problems. The minimisation of the expenditures that arise from conflicts among the parties involved can lead to optimal capital structures. By comparison, the trade-off theory proposes that firms have target debt ratios where debt-equity combinations are realised at points where corporate and income taxes, financial difficulties, and costs from bankruptcies are balanced. Such schemes are key for determining each factor that defines corporate capital structures and establishing which motivations influence the composition of capital structures.

In our research, we conducted analyses for the purpose of investigating how certain corporate characteristics determine the SME capital structures in Malaysia's manufacturing sector. Panel data was drawn from the financial reports of 807 manufacturing SMEs that operate within Malaysia. We considered the dynamic panel data and system GMM model, given the fixed effects scheme for the OLS model resulting in spurious findings with lag-dependence present. The dependent variable comprises leverage ratios of total liabilities divided by the total assets. Debt ratios include both short-term and long-term liabilities, as the typical SME hardly uses any long-term debt capital. Based on the findings, corporate leverage ratios are positively associated with corporate size, as assessed via total assets figures and collateralisable asset values. Therefore, larger firms rely more on external capital compared to smaller firms while providing material fixed assets as guarantees for borrowings. Therefore, this result follows the theoretical background stated within the second part of this paper.

Conversely, our results show that the ''non-debt-related tax shields'' of all firms are negatively associated with their levels of financial leverage. The principal benefit of external funding is found in the fact that interest payment is deducted when computing taxable income, which allows for corporate ''non-debt-related tax shields''. Such tax advantages enable corporations to pay lesser taxes than they otherwise would, using debt capital rather than relying solely on their own financial resources. McConnell and Pettit (1984) and Pettit and Singer (1985) argued that smaller firms tend to less profitability, with fewer uses for tax shields than larger firms. The higher potentials for SME bankruptcies as covered by the researchers (which raises the financial risks of default) do indicate that small firms should rely on less debt financing than bigger counterparts. Additionally, certain small firms face a lesser marginal tax rate than larger firms, which indicates that lesser firms derive fewer benefits in relying on tax shelters based on deductible corporate interest (McConnell and Pettit, 1984; Ang, 1992). By themselves, the higher costs from bankruptcies and lesser tax benefits would work towards lessening corporate SME debts below that embraced by otherwise equivalent larger firms.

When the results associated with Malaysian SMEs within the manufacturing sector are assessed theoretically, certain determinants lead to findings that follow trade-off theories, certain follow pecking-order theories and certain follow agency cost theories, with some following certain theoretical combinations according to model. Therefore, the firm size variables generated findings that follow trade-off theories for models 1, 2, and 3. The growth opportunities variables conformed to trade-off theories for model 1 only. Furthermore, it was discovered that non-debt-related tax shield variables generate meaningful results for all models that follow trade-off theories. The firm age variables lead to findings that follow the pecking-order theory for every model. The asset structure variables lead to findings that follow agency cost and trade-off approaches for every model. Nevertheless, no findings that are meaningful and/or follow these theories have been drawn from the profitability and firm risk variables examined in this study.

At present, the limited information available has allowed for the use of such models in describing Malaysian SMEs. The panel data enables a singular set of longitudinal data that offers insight into various SME financial structures. Data analyses indicate that the conventional financing models which are typically used for evaluating larger listed firms can also apply to the small businesses that represent most Malaysian commercial organisations.

This research has a number of limitations that help point to possible future areas of research. Firstly, we utilised a well-balanced sample that resulted in strong selection or survivor biases. The balanced panel cannot show a descriptive representation of Malaysian small businesses as a result of the selection criteria. Additionally, this research comprises certain limitations that are intrinsic to the nature of information in book accounting regarding estimated measurements of certain variables, along with the heterogeneity of Malaysian SMEs. Lastly, cross-country comparisons may provide useful findings as well. Broader studies at the national level may look into investigating similarities or variations by sector as well as geographic region.

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