Do CEO Overconfidence and International Diversification Strategy Affect the Capital Structure of Shariah Compliant Firms?

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ABSTRACT

The proponents of behavioral finance have always argued that managers are always irrational when making financial decisions. Of late, some studies found that capital structure decision made are less than fully rational since it involved the human factor. In addition, the international diversification strategy of a company is said to also affect the capital structure decision. In lieu of this latest development, this study investigated the effect of CEO overconfidence and the international diversification strategy on capital structure's decisions among Shariah-compliant firms (SCFs) listed in Bursa Malaysia. A two-step system generalised method of moments panel regression model was applied to an annual data of 200 SCFs listed on Bursa Malaysia starting from 2009 to 2017. The empirical results revealed that overconfident CEOs characterized as highly qualified, young and shorter-tenure CEOs were aggressive in making the capital structure decisions. On the other hand, overconfident male CEOs appeared to be less aggressive in making capital structure decisions. Meanwhile, it was revealed that a company that is prone to an international diversification strategy tends to use less total debt and long-term debt. This could be due to the monitoring costs for internationally diversified firms to be probably more expensive than domestic firms.

Keyword: Capital Structure, International Diversification Strategy, CEO Overconfidence, Shariah-Compliant Firm.

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INTRODUCTION

Capital structure is referred to as the financial decisions in raising funds from different sources (Alom, 2013; and Awan & Amin, 2014) which comprises debt and equity (Kumar et al., 2017); retentions, shares, and debt (Affandi, Mahmood & Shukur, 2012); short-term debt, long-term debt and equity (Acaravci, 2015). As commercial firms, managers' concern is in minimizing cost, thus sound financial decisions are referred to the raising of funds at a low cost. In ensuring the survival of firms, managers need to have a good capital structure strategy, since capital structure is said to be optimal when it has low acquiring funds cost and, at the same time, capable of maximizing firm value and performance (Alom, 2013).

The Trade-off Theory (TOT), Agency Theory (AT), and Pecking Order Theory (POT) are among the traditional theories commonly used to discuss the capital structure of firms. Based on these three dominant capital structure theories, when it comes to external financing, firms prefer to finance their business activities by using debt financing as compared to equity financing. The TOT suggests the preference for debt financing is prompted by the tax-benefit, hence resulting in the increases of firms' net income and firms' value. Firms are said to have an optimal level of debt when it has a balance between tax benefits and bankruptcy costs (Gaud, Hoesli, & Bender, 2007; Jahanzeb, Bajuri, Karami, & Ahmadimousaabad, 2014; and Sen & Oruc, 2009; Ross, 1977). Meanwhile, POT considered debt financing costs when asymmetry information is lower than equity financing cost (Danso & Adomako, 2014). Another prominent theory named the AT suggests that the agency cost which arises from the conflicts of interest between the firms' shareholders and managers can be mitigated via debt financing (Dawar, 2014) as a high debt level would discipline the managers' behaviour and lead their actions to represent shareholders' interest. Overall, these three theories argued that debt is the preferred source of financing as the cost of debt is lower than equity.

Based on the above theories, firm characteristics are found to impact firms' capital structure (Sheikh & Wang, 2010; Chen, 2004; Handoo & Sharma, 2014; Chang, Chen, & Liao, 2014; and Anna, Theodoropoulou, Triantafyllou, & Laios 2015). Nevertheless, several empirical evidences revealed mixed results, and researchers found difficulty in determining the

theories that could underpin the capital structure choice of the firms studied (Sheikh & Wang, 2010; and Bilgehan, 2014). Furthermore, Alom (2013), Saif-Alyousfi, Md-Rus, Taufil-Mohd, Taib, and Shahar (2019)which are profitability, growth, tangible assets and liquidity in determining the capital structure of Food and Beverage (F&B, and Sen and Oruc (2009) mentioned that there is no one universal theory that could best explain the rationale for capital structure. For that reason, up to now, the relationship between capital structure and its determinants remains the subject of considerable debate. The issue arises because traditional theories assumed economic players as always rational, which means that they are efficient and unbiased processors of relevant information and their decisions are consistent with utility maximization (Brooks, 2008). However, corporate financing decisions can be less than fully rational or biased as it deals with psychological factors that lead every manager to have their own different view and way of thinking while making decisions.

The behavioural corporate finance model suggests human cognitive limitations due to psychological effects, such as overconfidence is considerably prominent among corporate managers (Liang, Ling, Tang, Zeng, & Zhuang, 2020). The overconfident managers' attitude is a result of several factors, including managers' past experience, different gender, education level, diverse culture, and others. Therefore, beyond the rational framework, a new framework known as behavioural corporate finance in a modern finance theory considered psychology effect as a factor in corporate financing decisions. Therefore, it is expected that the combination of traditional capital structure theories and behavioural finance theory could best explain the rationale behind the firm's capital structure decision. Correspondingly, CEOs were more likely to act overconfident compared to other individuals who were placed in another job role (Gervais, Heaton, & Odean, 2011) and more presumably reflected in corporate capital structure decisions (Wei, Min, & Jiaxing, 2011). Besides, CEOs are the authorized persons to make firms' strategic choices based on their value and cognitive base (Hooy & Ali, 2017; and Lee & Moon, 2016).

Besides, the incentives given by the Malaysia's government has surged Malaysian firms to engage in the diversification strategies. Mehmood and Hilman (2015) reported that there were more than 70 percent of public listed firms on the main market of Bursa Malaysia from 2010 to 2012 engaging

in diversification strategies. In term of corporate strategic financial policy, firm's diversification strategies are predicted to affect the decision in firm's capital structure (Hamyat, Sarita, Hasbudin, & Sujono, 2017). Since Malaysia possesses the high degree of diversified firms, it is valuable to study the impact of the diversification strategy on the capital structure decisions.

Apart from that, although studies on the capital structure decision are numerous, very few studies have actually analyzed the capital structure decision in the context of SCFs. The rapid growth of Islamic finance particularly in Malaysia has prompted the financial capital market to run both Islamic and conventional capital markets. As a result, Malaysian public listed firms are made up of both SCFs and non-Shariah Compliant Firms (NSCFs). The operations of SCFs are different compared to the NSCF since they must comply with Islamic principles and need to be approved by the Shariah Advisory Council (SAC) of Securities Commission (SC). In addition, SCFs also face some restrictions in debt financing. Since there should not be any element of "riba" which is generally defined as interest in securing loans, this implies that SCFs cannot be structured as traditional debt for borrowed money. Due to rulings set up by SAC of SC and restriction imposed by Islamic rulings, the determinants of capital structure among SCF might differ with NSCF. Moreover, the empirical result of Naz, Shah, and Kutan (2017) showed that managers who come from NSCFs to SCFs are significantly different in terms of individual effects on financial decisions such as capital structure, dividend policy, and working capital decisions. Thus, the capital structure's decisions of overconfident CEOs might be different for NSCFs and SCFs.

In essence, this study differs from previous studies in several ways. First, this research attempted to investigate whether CEOs overconfidence influence the capital structure decision apart from the firm's specific factors. Second, this study attempted to examine the relationship between internalization strategy and capital structure decisions. Third, this study attempted to fill the gap by focusing on SCFs in examining the effect of CEO overconfidence, and international diversification strategy on capital structure decisions.

LITERATURE REVIEW

Behavioural Finance Theory

A growing literature on behavioural finance shows that managers tend to develop behavioural biases that influences their financial decisions (Daskalakis, Kalogeras, & Chrysikopoulou, 2011; Ishikawa & Takahashi, 2010). The Descriptive Decision Theory also identified as a psychological theory, used cognition to explain the decision-making process (Oliveira, 2007). This cognitive model further explains the Attribution Theory, which suggested that the decision-making process comprises the elements of schemata (past experience), heuristic, and bias.

Managers used their schemata and related it with the current ambiguous information, which is known as a heuristic process. However, the probability of bias might occur at the time of the heuristic process, which was also identified as a cognitive bias, and this bias may result in an attribution error. Therefore, most of the behavioural corporate finance studies related to an irrational manager with cognitive bias. There were several types of cognitive bias, however, overconfidence is a common type of cognitive bias. Besides, the overconfident bias is a common type in a corporate setting (Hilary & Hsu, 2011; Keyghobadi, Seif, & Fathi, 2019; Liang, Ling, Tang, Zeng, & Zhuang, 2020; Seo, Kim, & Sharma, 2017) and an essential determinant of corporate financial decisions (Adam, Fernando, & Golubeva, 2015) and capital structure (Barros & Silveir, 2007; Bilgehan, 2014; Daskalakis et al., 2011; Ishikawa & Takahashi, 2010).

Manager overconfidence was associated with the tendency to overestimate their future cash flows (Lin, Hu, & Chen, 2005; Malmendier, & Malmendier, 2005; Nofsinger, 2003), underestimate the risk of the decision outcomes (Ben & Ben, 2016; Hackbarth, 2008; Nofsinger, 2003), accepting more significant risks (Hirshleifer, Low, & Teoh, 2012), overestimating their skills and knowledge (Barros & da Silveira, 2007), and acting more decisively and aggressively (Adam et al., 2015). In terms of external financing decisions, overconfident managers preferred to finance the business using a more outstanding debt (Dashtbayaz & Mohammadi, 2009; Hackbarth, 2008; Nofsinger, 2003; Hsieh, Wang, & Demirkan, 2018) and presumed to choose more significant short-term debt rather than long-

term debt. Overconfident managers were also reluctant to issue shares because they perceived their firm's stocks to be undervalued by the market (Malmendier & Malmendier, 2005).

Relating to the overconfident bias, Upper Echelon Theory (UET) is a convenient theory that is used for examining the effects of overconfident CEOs on strategic decision-making. UET explained that managerial characteristics are efficient proxies for psychological constructs (Carpenter, Geletkancz, & Sanders, 2004) and proxies for underlying cognitive capacities (Aharoni, Tihanyi, & Connelly, 2011). The UET highlighted the concept of strategic choice under conditions of bounded rationality. The UET addressed that the top managers are not always rational in making decisions, and this statement is based on their tendency to rely on their cognitive base and values in the middle of the decision-making process. The UET also described that organizational strategic outcomes and processes are functions of managerial characteristics of top managers (Malmendier & Tate 2005) such as observable, age, functional tracks, career experiences, education, socioeconomic roots, financial position group, and group characteristics (Hambrick & Mason, 1984).

A manager's education level influences the firm's strategic decision, whereby highly educated managers are expected to consider a riskier strategic choice, thus being more overconfident (Hambrick & Mason, 1984; Lee & Moon, 2016; Rakhmayil & Yuce, 2005; Su, Lin, Chen, and Lowe, 2019). In terms of gender difference, most of the literature on psychology, ethics, and business supported the notion that females were more conservative, less confident, and more risk-averse than male as suggested by Albaity and Rahman (2012), Barno (2017), Graham, Harvey and Puri (2013) and Skała and Weill (2018). Meanwhile, CEOs also used their schemata as a reference to process the information and concluded the strategic decisions. Previous studies by Lee and Moon (2016) and Rakhmayil and Yuce (2005) found that longer-tenured CEOs were more likely to take a less strategic risk, which meant that they were less overconfident, albeit shorter-tenured CEOs appeared to be overconfident due to their lack of management experience (Wei et al., 2011). Most importantly, Abatecola and Cristofaro (2018) and Hambrick and Mason (1984) argued that younger managers were more likely to work towards risky strategies compared to more senior managers and this notion was supported by Sproten, Diener, Fiebach, and Schwieren

(2018) and Wei et al. (2011). Based on the above, this study expected those overconfident CEOs (highly qualified, male, shorter-tenure, and younger CEOs) to use more outstanding debt, particularly short-term debt.

Diversification Strategy

Diversification is a crucial issue to corporate strategic management studies as dictated by the work of Ansoff (1958). Diversification is always related to the firms' growth strategy as it capable to increase sales and market share, affect the decision in the capital structure, and improves the firm's performance (Hamyat Sarita, Hasbudin, & Sujono, 2017). There are growing studies on the effect of diversification on capital structure, for example, Su (2010), Hann, Ogneva, & Ozbas (2013), Junior and Funchal (2013), Singh, Davidson, and Suchard (2003), Jouida (2017), Hamyat et al. (2017), Chkir and Cosset (2001), and Ajay and Madhumathi (2012). Nevertheless, the number of studies is still scarce, and there is limited studies so far done in Malaysia.

The literature shows that international diversification strategy may either result in an increase or decrease in debt level. Firms that engaged in the international diversification strategy are exposed to the increases of business risks as the firms are allowing the absorption of the external risks, for example, exchange rate risk, political risk, and investment volatility risk which induces financial distress, resulting in lower debt level (Lindner, Klein, & Schmidt, 2018). However, the other side of the arguments of the internalization strategy is risk diversification as it enables firms to reduce the systematic risk and leads to a reduction in the cost of debt financing which later creates additional borrowing capacity to the firms (Ajay & Madhumathi, 2012; and Hann, Ogneva, & Ozbas, 2013). Besides, firms that operate internationally are exposed to the agency conflict, but the shareholders' profit maximization can be achieved through the increase of debt level (Park & Jang, 2014), thus inducing the firms to increase debt usage. Nevertheless, Junior and Funchal (2013) proved that diversified firms in Brazil do not bring benefits to the firms financing ability.

Past empirical results are mixed. A negative relationship between MNCs and debt level is found in Cappa, Cetrini and Oriani (2020), Doukas and Pantzalis (2003) and Lindner et al. (2018). Meanwhile, Ajay and

Madhumathi (2012) indicated that international diversification is positively related to debt ratios (including both short-term and long-term debt ratios). Nevertheless, Junior and Funchal (2013) proved that diversified firms in Brazil did not bring benefits to firms' financing ability. These results were not homogenous due to the effect of the capital structure, which was functioned by several other factors.

DATA AND MODEL SPECIFICATION

We estimated Eq. (1) using the GMM estimator based on the panel of 200 SCFs listed in Bursa Malaysia. These firms were observed from 2009 to 2017. The selection of firms was primarily dictated by the availability and reliability of data over the sample period. The total number of observations made by using a balanced panel was 1800. Data were collected from two main sources. Financial data were sourced from Thomson Reuters Data Stream and CEOs overconfidence data were manually extracted from the annual report of the SCFs, retrieved from www.bursamalaysia.com.my.

$$\mathrm{CS} = \alpha CS_{i,t-1} + \beta_1 Cedu_{i,t} + \beta_2 Cmale_{i,t} + \beta_3 Cage_{i,t} + \beta_4 Cexp_{i,t} + \beta_5 Dint_{i,t} + \beta' X_{i,t} + \eta_i + \varepsilon_{i,t} \quad 1)$$

where subscripts *i* and *t* denote firm and year, respectively, CS is the capital structure of the firm measure by three different proxies, namely debt ratio (DR), long-term debt ratio (LTDR), and short-term debt ratio (STDR), *Cedu* is CEO education level code as 1 if CEOs possessing master's degrees, a Master of Business Administration (MBA), Doctor of Philosophy (Ph.D) and 0 if CEOs holding bachelor's degrees or other higher education; *Cmale* is CEO male code as 1 if male CEOs and 0 if otherwise; *Cage* is current CEOs age in the years; *Dint* is international diversification strategy code as 1 for international or multinational firms (firms that have more than 10% foreign sales ratio) and equal to 0 for domestic firms (firms that have less than 10% foreign sales ratio); and *X* are control variables that influence the capital structure. The control variables are profitability, tangibility, size, growth, risk, NDTS, and liquidity. The firm-specific effect is represented by η and $\beta_1 \beta_2 \beta_3$ and β_4 will be estimated by the GMM estimator and is the error term. The impacts of and are expected to be a positive sign, while and are expected to be a negative sign on capital structure.

Model Specification

This study estimated the Eq. (1) using GMM proposed by Arellano and Bond (1991) was due to the potential endogeneity of independent variables, the inclusion of the lagged dependent variable, and the presence of the firm-specific effects. Problems aforementioned would cause Nickell (1981) bias if we estimate using static panel data such as pooled OLS, fixed effect, or random effect. Arellano and Bond (1991) and Arellano and Bover (1995) suggested that lagged level should be used as instruments for the difference, lagged dependent variables, and other endogenous variables in one-step or two-step difference GMM. However, Blundell and Bond (1998) proved that a system GMM estimator performed much better especially when the series is persistent. We adopted the two-step system GMM in this study because the two-step GMM is more efficient than the one-step GMM in estimating the coefficient with lower bias and standard errors (Windmeijer, 2005). Sargan or Hansen test was applied for the consistency of the GMM estimator. For the GMM diagnostic purpose, the Sargan or Hansen test, Arellano-Bond (AR (2)) test, and difference in Hansen test were conducted. Sargan or Hansen test is for overidentifying restriction, serial correlation test for disturbances, and difference in Hansen test for extra moment's conditions (Arellano & Bond, 1991; Arellano & Bover, 1995; Blundell & Bond, 1998). Failure to reject the null hypothesis would imply that the instruments are valid, and the model is correctly specified. The serial correlation test (AR (2)) was conducted to test for second-order serial correlation. Failure to reject the null hypothesis indicated no serial correlation. Failure to reject the null hypotheses of the difference in the Hansen test would give support to the validity of additional moment conditions.

RESULT

Table 1 presents the results of the two-step system GMM for the impact of CEO overconfidence and international diversification strategy on capital structure for SCFs listed in Bursa Malaysia. Based on the three diagnostic tests conducted, the GMM estimators were unbiased, consistent, and efficient. Moreover, the lagged dependent variable for DR, LTDR, and STDR was statistically significant, which indicated that the dynamic GMM was the best estimator and the number of instruments is also showed less

than the number of firms for DR, LTDR and STDR. These revealed that the empirical results were reliable and hence the statistical inference related to the hypothesis of interest could be performed.

Table 1: Estimated Result of Two-Step System Generalized Method of Moment (GMM)

Variables	DR	LTDR	STDR 3
	Model 1.1	Model 1.2	Model 1.3
CEO education level	-0.0048*	**-0.0197*** **	**0.0115*** **
	(0.0026)	(0.0018)	(0.0020)
CEO gender	**-0.0791*** **	**-0.0753*** **	-0.0087
	(0.0099)	(0.0078)	(0.0091)
CEO age	**-0.0016*** **	**-0.0002*** **	**-0.0006*** **
	(0.0001)	(0.0001)	(0.0001)
CEO tenure	0.0023***	0.0020***	**-0.0004*** **
	(0.0001)	(0.0001)	(0.0001)
Diversification	**-0.0116*** **	**-0.0198*** **	0.0002
	(0.0021)	(0.0016)	(0.0015)
Profitability	**-0.0854*** **	**0.0239*** **	**-0.0783*** **
	(0.0050)	(0.0031)	(0.0046)
Tangibility	0.0012	**0.0449*** **	**-0.0415*** **
	(0.0040)	(0.0032)	(0.0037)
Size	**0.0213*** **	**0.0182*** **	**0.0061*** **
	(0.0008)	(0.0005)	(0.0007)
Growth	0.0026***	0.0003***	**0.0010*** **
	(0.0002)	(0.0001)	(0.0001)
Risk	-0.0001	**0.0003*** **	**-0.0006*** **
	(0.0001)	(0.0001)	(0.0000)
NDTS	**0.1585*** **	**-0.3657*** **	**0.6631*** **
	(0.0265)	(0.0277)	(0.0207)
Liquidity	-0.0060***	0.0007***	-0.0077***
	(0.0003)	(0.0002)	(0.0002)
AR (1) (P-value)	0.000	0.000	0.000
AR (2) (P-value)	0.933	0.316	0.868
Hansen Test (p-value)	0.388	0.291	0.351
Difference-in-Hansen Test (p-value)	0.489	0.367	0.321
No. of instrument	182	182	182
No. of groups	200	200	200

Notes: The estimation of GMM use xtabond2 in STATA 12; Figures in parentheses () underneath the standard error; ***, ** and * denotes significant level at 1%, 5% and 10%, respectively.

Table 1 reveals that the overconfident CEOs (measured by highly educated CEO) used less total debt and long-term debt. The relationship between highly educated CEOs and DR was reported to be negative at a 10 per cent significance level (-0.0048). Meanwhile, the result on LTDR was reported at a 1 per cent significant level (-0.0197). However, when it comes to short-term debt, the overconfident CEOs (measured by highly qualified CEOs) preferred to finance the investment by using short-term debt with a 1 per cent significance level (0.0115). Given those results, it can be concluded that highly qualified CEOs are aggressive, willing to take high-risk financing instruments, overconfident of their skill and knowledge which induce them to use the riskiest debt instrument (short-term debt). This argument is consistent with the evidence from Su et al. (2019) and Chen, Leung, Song, & Goergen (2019) which suggest that highly qualified managers are more subjected to overconfidence. Besides, Rakhmayil and Yuce (2005) found that CEOs with higher education level tend to have greater financial leverage. Based on the debt preference (DR, LTDR and STDR), the overconfident CEOs in the SCFs are indeed more likely to use short-term debt instruments as compared with total debt and long-term debt instruments. These findings are parallel with the UET and Lee and Moon (2016) which suggest that highly qualified CEOs tend to consider risky strategic choices in their decision making.

Next, the overconfident CEOs (measured by male CEOs) indicated a negative relationship on DR and LTDR with a coefficient value -0.0791 (1 per cent significant level) and -0.0753 (1 per cent significant level) respectively. On the other hand, an insignificant relationship was found for the relationship between male CEOs and STDR. This signified that male CEOs of SCFs were less likely to finance their business by using debt. On that note, these findings contradict the UET and Graham et al. (2013), as both sources found that male CEOs prefers to have high total debt, especially for short-term debt.

In terms of CEOs' age, the result of older CEOs was reported to be negatively correlated with DR, LTDR, and STDR with a 1 per cent significance level, signifying that older CEOs use less DR, LTDR, and SDTR to finance the investment of SCFs. In other words, the results suggested that overconfident CEOs (young CEOs) are overconfident to pursue the financial strategic decision and use greater total debt, long-term debt, and short-term

debt. Besides that, based on the coefficient value, young CEOs are prone to use more on short-term debt rather than long-term debt. The finding strengthens the evidence that young CEOs are aggressive and overconfident in making corporate strategic financing choices. These results align with the UET Hambrick and Mason (1984) and the past studies of Sproten et al., (2018)we investigate how decision making under uncertainty is affected by age. We ran two experiments with young and older adults, systematically manipulating (1 and Wei et al. (2011).

Referring to CEOs' tenure, the outcome of the estimated results revealed that longer-tenured CEOs were positively related to DR and LTDR, while negatively related to STDR. These results were reported at a 1 per cent significance level. Hence it shows that overconfident CEOs (shorter-tenured CEOs) tend to opt for short-term debt rather than long-term debt and total debt to finance their investments. These results confirm that overconfident CEOs are risk takers and likelier to use short-term debt. The result is in support of the previous empirical studies of Huang, Tan, & Faff (2016) and Graham et al., (2013).

An inverse relationship was found between international diversification and capital structure decisions. It was reported that international diversification had a negative coefficient with DR (-0.0116) and LTDR (-0.0198) respectively and was statistically significant at a 1 per cent level. The empirical evidence put forward that SCFs operates internationally might substitute debt financing to equity financing due to the advantage of accessing the foreign financial market (Doukas & Pantzalis, 2003). Furthermore, parallel with the principle of justice in Islam, SCFs are advised to promote the *Shirkah* instrument (equity financing) to foster the spirit of brotherhood and eliminate exploitation and greed (Yusof, Kashoogie, & Kamal, 2009). Another possible explanation for this outcome is that monitoring costs specifically for MNCs might be more expensive and difficult compared to domestic firms. As a result, it increases the agency cost as well as the cost of capital for MNCs as well (Doukas & Pantzalis, 2003; and Singh & Nejadmalayeri, 2004). These results concur with the previous studies of Lindner et al. (2018) and Doukas and Pantzalis (2003). Additionally, Bany-Ariffin, Matemilola, Wahid, & Abdullah (2016) found that Malaysian MNCs showed a positive relationship with risk, suggesting that their risk levels are not reduced due to international diversification

strategy. This result may be explained by the fact that Malaysian MNCs are concentrated foreign investments in ASEAN countries, such as Indonesia, Thailand, and Singapore (Ariff & Lopez, 2008). Positive correlation economies within the Asian region could account for increased risk levels, resulting in the decreased debt structure of SCFs. Thus, the results indicated that SCFs investing abroad through the international diversification strategy do not obtain benefits in terms of creating debt capacity.

Next, the coefficient estimated for the control variable revealed that profitability was negatively related to DR and STDR at a 1 per cent significance level. Consistent with Awan and Amin, (2014), Thabet and Hanefah (2014), Hassan, Shafi, & Mohamed (2012), and the traditional theories of POT and ACT, these findings denoted that SCFS are more likely to use the cheapest cost of financing which is internal funds to finance investments. These results proved that profitable SCFs prefer to have a low cash ratio which is consistent with the screening methodology set by SCM. However, the result for Model 1.2 is indicated to be positively significant related to LTDR, which signifies profitable SCFs tend to use more long-term debt when they have exhausted their possession of internal funds. This outcome is in line with the TOT and AT. However, the coefficient value of LTDR indicated a lower value compared with the coefficient value of DR and STDR.

However, tangibility was reported to have a positive relationship with LTDR at a 1 per cent significance level. This result supports the prediction of TOT and the previous empirical literature of Akinyomi and Olagunju (2013), Awan and Amin (2014), and Danso and Adomako (2014). On top of that, this result is also parallel with the Islamic perspective whereby debt must be asset-backed. Therefore, parallel with the screening methodology, those SCFs which have a high proportion of total assets should have the capacity to finance investment by using high debt level. Meanwhile, consistent with Alves, Couto, & Francisco (2015), a negative relationship was found for STDR at a 1 per cent significance level.

At the same time, size indicated a positive relationship for all models (DR, LTDR, and STDR) at a 1 per cent significance level, which simultaneously proves that larger firms tend to use more on debt preference namely total debt, long-term debt, and short-term debt. These results are

likely to be related to the highly diversified and less possibility to bankrupt larger firms (Rajan & Zingales, 1995). Therefore, it is suggesting that large firms will have a good credit rating and have better access to credit markets (Ahmad & Azhar, 2016 & Al-Ajmi, Hussain, & Al-Saleh, 2009). These findings are aligned with TOT and AT and the previous studies conducted by Affandi et al. (2012) and Sheikh and Wang (2010).

Growth exhibited a positive relation with DR, LTDR, and STDR, by showing the coefficient values of 0.0026, 0.0003 and 0.0010 respectively at 1 per cent statistically significant. This indicated that growth firms need a large capital, particularly, from debt. These results are aligned with the prediction of POT and results from Sheikh and Wang (2010).

Meanwhile, the estimated coefficient for risk was indicated positively significant related to LTDR and this finding supports the AT. This shows that the high earning volatility of SCFs is more likely to use long-term debt due to the low repayment commitment compared with short-term debt. Given that finding, a negative relationship was found for the STDR, indicating that SCFs with high earning volatility will reduce their short-term debt. The results suggest that SCFs assume that short-term debt is riskier than long-term debt. Consequently, SCFs are favourable to using long-term debt when they are facing high earning volatility. This finding is also consistent with POT and TOT and the previous studies conducted by Danso, and Adomako (2014), Arosa, Richie, & Schuhmann (2015) and Thabet and Hanefah (2014).

Lastly, liquidity showed negative relation with DR and STDR, which signified that SCFs as less likely to finance the investment by using total debt preference and short-term debt. This finding is consistent with the prediction of POT and AT and the previous study of Thabet and Hanefah (2014). However, a positive relationship was found for LTDR, meaning that the high liquidity position of SCFs tends to use long-term debt instruments to finance their investment. This outcome confirms the prediction of TOT.

CONCLUSION

This study investigated whether CEO overconfidence and international diversification strategy affected the capital structure decisions of 200 SCFs listed in Bursa Malaysia from 2009 to 2017. Two-step system GMM estimation was used to address the endogenous and heterogeneous biases. In summary, this study showed that overconfident CEOs of SCFs (measured by highly qualified, young and shorter-tenure CEOs) tend to choose short-term debt over long-term debt as they have a strong belief in their firms' prospects (Phua, Tham, & Wei, 2018; and Zhang & Yang, 2018), and confident to meet the short-term obligation (Huang et al., 2016). Besides, overconfident CEOs also believe that they can increase the corporate value by taking more on short-term debt due to the lower cost of financing. In addition, the international diversification strategy also leads the SCFs to use less total debt and long-term debt. These findings expands the current body of knowledge on the capital structure's decision, specifically, concerning CEO overconfidence and international diversification strategy in the SCFs listed in Bursa Malaysia. Based on the CEOs' characteristics, investors, especially risk-averse investors can forecast the risk involved in investing in SCFs as highly short-term debt may jeopardize the firm into financial distress. Meanwhile, the significant element of CEO overconfidence in deciding the capital structure of the SCFs provides a new understanding and indication for the board of directors on selecting a new potential CEO, so that the new CEO appointment will meet the firm's expectation. Besides, findings of the effects of international diversification strategy on the capital structure could guide the top management to decide and implement the strategy by considering the aggressiveness of CEOs overconfidence and SCFs' characteristics. This study has three aspects of limitations, which in turn offer promising avenues for future research. First, this study focussed on debt structure, namely short-term debt, long-term debt, and total debt. However, the study on the effects of CEO overconfidence and international diversification strategy on internal funds and external funds (debt and equity) may provide better insights into the financing behaviour of the SCFs. Second, the research period was limited to 9 years. Longer periods would possibly offer more conclusive results. Third, the sample of this study comprised the consumer, industrial, construction, trading and services and property sector. Future studies may focus on other sectors or examine across countries.

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