THE RELATIONSHIP BETWEEN GOVERNMENT OWNERSHIP, FIRM PERFORMANCES AND LEVERAGE: AN ANALYSIS FROM MALAYSIAN LISTED FIRMS

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Abstract

The purpose of this paper is to examining the impact of government ownership on firm performance and leverage in Malaysia. In this paper, we examine governance mechanism and firm performance and leverage of 200 Malaysian firms over 5 year periods from 2005 - 2009. We use fixed effect panel regression model in predicting capital structure of Malaysian firms. We use two indicators as independent variables which are debt ratio and debt over equity ratios. This paper is to determine whether after controlling firm specific characteristics such as corporate governance, agency cost, growth, risk and profitability, government involvement will influence decision on debt policy of the firm. This study may enable the firms to make better decision on their external financing. The inverse association of leverage and profitability implies that the firms are able to get the required capital easily due to the higher level of profits. The existence of government support and backup also will ensure the level in the firms is at the controllable. Therefore, the findings will be able to add new knowledge to the corporate managers and policy makers especially on decision-making on capital structure.

Keywords: Government Ownership, Corporate Governance, Leverage

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INTRODUCTION

The principle idea from this study is to scrutinize the correlation that exists among government ownership, leverage and profitability. The firms are randomly select from 2005 - 2009 which are listed on the main market of the Bursa Malaysia in order to analyze empirically.

Corporate ownership is highly concentrated in Malaysia (Nor and Sulong, 2007). Actually, more than 50% of firms hold 60% or more of the firms' equity in Malaysia especially public listed firm which represent the 5 leading shareholders as reported by Nohasniza (2009). The nominee companies (45.6%) are the leading shareholder groups among the top 5 shareholders in Malaysia. Then, it is followed by non-financial companies (25.1%) and the government (17.2%). Based on Capulong et al. (2000), family shareholdings for the nominees were the majority.

Then, Claessens et al. (2000) had done a research on East Asian corporations and was found that out of 238 Malaysian firms in the sample, 10.3% were broadly seized, 67.2% were owned by families, 13.4% by the government whereas financial and non-financial institutions owned 2.3% and 6.7% correspondingly. The above statistics of the government owned and family owned firms are general nature for the business environment in Malaysia. Hence, the variety of ownership structure in Malaysia attracts the study of how these structures correlate with the leverage and profitability of the firms listed in Malaysia.

According to Putrajaya Committee on GLC High Performance (2010), to ensure future success of Malaysia which is to achieve Vision 2020, the revolution of Government-Linked Companies (GLCs) into high-performing entities is vital. The purpose to establish this team is to facilitate the transformation. Besides that, to plan and to execute complete national policies and rule is the key mandate for this committee in order to convert GLCs into high performing entities and create the institutional support to program, organize and then to administer the implementation of these policies and rules.

In addition, GLCs are the companies that have a principal profit-making purpose and where the Government of Malaysia has a straight controlling stake. It means that the Government's capability (not just proportion of holding) to employ Board of Directors members, senior management, decide on important thing regarding tactic, reshuffle, financing, acquisitions and divestments etc,) for GLCs either directly or through GLICs according to Khazanah (2010). GLCs utilize an anticipated 5%

of the countrywide labor force and report roughly 36% and 54% correspondingly of the market capitalization of Bursa Malaysia and the standard Kuala Lumpur Composite Index. Although by active divestment and privatization, they continue to become the major service providers to the country especially for main strategic utilities and services.

Currently, the choice of the leverage by firms becomes a basic issue in the financial literature. Sometimes conflict may arise between the managers and the firm's CEO in making a good decision regarding the optimum capital structure like how much to borrow, either to take long or short term debt and others.

There are many study have been done on corporate financial choice in developed countries, but little work were done on emerging and developing countries especially in Malaysia. Besides, several studies had been conducted in this field but found inconsistent results and the consensuses also not be met. Therefore, this paper try to response to the following questions: Which factors has the biggest impact on the financial leverage in Malaysian companies, what are the relationship between government ownership, profitability (ROA), firm size, growth, non-debt tax shields, tangible assets, firm age and duality with leverage and whether government ownership influence in decision making concerning the capital structure.

The study is predicts to give essential contribution to the companies regarding decision making of the good proportion of capital structure. If the company having too much of debt in their capital structure, it will lead the company to go into bankruptcy problem in the future.

Hence, hopefully the finding from this study can add new knowledge to the corporate managers in making their own decision about the companies' capital structure. Thus, it will contribute to better financial performance and condition.

PRIOR STUDIES AND HYPOTHESIS DEVELOPMENT

Leverage is the financial structure proxies adopted in this study. The choice of these proxies however, depends on purpose of the study according to Rajan and Zingales (1995). The two different measure of the leverage has been used for this study which is based on book values of relevant financial variables.

The dependent variable for the first model has adopted the ratio of total debt to equity (LevDE) following Hovey (2007). Besides that, Scherr et al. (1993) also use total debt over total equity for proxy of leverage. This ratio is important in order to know whether the listed firm in Malaysia use external or internal financing to support their business activities.

Meanwhile for the second model, the study use leverage ratio of total debt divided by total assets (LevDA) as supported by Achy (2009) and Markus et al. (2009). Then, Abdussalam (2006) also defined total debt to total assets in his study. Both of these ratios will give same information content about the firms. Furthermore, investigation using different proxies for the leverage enables to test whether the same factors may influence both financial structure proxies.

A high level of external financing signals the existence of assistant from the state support for business activities evidenced from studies in China Chow and Fung (1998). The profitability is found to be inversely related to debt in the case of companies in Pakistan since strong financial position that they have discourage them from taking any external financing as reported by Hijazi and Yasir (2006).

In the case of France, the performance of companies in which ownership concentration is applied was found to be poor especially when government, financial or non financial institutions becomes owner Gedajlovic and Shapiro (1998). However, the concentrated of ownership will also depends on the level of risk that they face in the market Demsetz and Lehn (1985).

Chang (2003) concludes that the ownership will mostly be concentrated by the family members in the companies that have a good and strong financial position and performance in the market and also faced low risk in the business. Institutional investors also affect the corporate performance in which high institutional investors' ownership result to high performance of the company Karathanassis and Drakos (2004).

The efficacy of the government interference in managing the business results to better firms' performance and value in case of Malaysian firms (Lau and Tong (2008)). Then, state-owned enterprises have performed better due to privatization (Sun and Tong (2005)). In addition, Feng et al. (2004) reported that the performance of the GLC and non-GLC are equal given similar industry for Singaporean GLC.

Control variables

Government ownership

The government ownership takes into consideration for this study in order to know it consequence on the capital structure of the listed firms. The government ownership is considered as the dummy variable when the government holds higher than 20% of voting shares (Nazrul Hisyam Ab Razak et al. (2008). According to Roshan (2009), correlation

involving the capital structure and ownership structure of the company is exists.

Nazrul et al. (2008) found that the government ownership in Malaysia is significantly affects the firms' performance. Whereby, the government holdings move in the same way as the performance. Hovey (2007) did not find any important correlation linking the institutional ownership and leverage for China's company case. However, in the other study reported by Hovey (2005b), Hovey notices that the state ownership is inversely related to the company's performance.

The listed firms for Thai and Indonesia were studied by Bunkanwanicha et al. (2006). From the study, they found that the biggest proportion of ownership by shareholders in the firms were significant and inversely related to the leverage. Furthermore, the relationship becomes stronger during the downturn period.

Then, Sun and Tong (2003) found that the state had a negative impact on listed firm performance. Meanwhile, Wang (2005) also did not found any impact for the initial public offering firm's performance related to the state.

Besides that, according to Sun and Tong (2002) the level of external financing has been decreased through privatization of the Malaysian companies although it is not really good as compared to others. In addition, the companies that employ the external financing purposely to minimize the agency problem since there will be outsiders to watch over them (Agrawal and Knoeber, 1996).

Based on Shleifer and Vishney (1992), they discuss how less leveraged firms in an industry can profit from buying the assets of their more leveraged counterparts at fire sale prices in the event of an industry downturn. Moreover, the differences in leverage ratios within an industry could also explain differences in management tastes and ownership structures.

Chaganti and Damanpour (1991) reported that correlation is exist linking the insider and family ownership with the company's capital structure. Besides that, the outsiders and insiders also will work together to give some impact on the company's performance. Smith (1990) found that the management ownership significantly correlated to the firm performance in an affirmative way since it minimizes existence of agency problem in the firm. But, an inverse correlation is observed by Mahadwartha (2002a) and Mahadwartha and Hartono (2002) involving the management ownership and external financing of the companies.

Friend and Lang (1988) study the effects of insider ownership on debt ratios. They note that a potential shortcoming in their analysis is precisely the assumption that insider ownership "causes" changes in debt levels. A more plausible explanation is that these variables are determined simultaneously. In particular, debt policy may also affect insider ownership choices, or both may be independent of each other, but related to similar firm-specific attributes. However, their single-equation technique permits no analysis of simultaneity.

Leland and Pyle (1977) and Kim and Sorenson (1986) predict that the external financing correlate affirmatively with the ownership of the insiders. Friend and Hasbrouck (1987) and Friend and Lang (1988) hypothesize that bankruptcy costs lead to an inversely connection of insiders and leverage. Given that the size of the board does have some bearing on performance, the first hypothesis is stated as follows:

> ***H_1:*** There is a significant correlation between government ownership and leverage.

Profitability

The return on assets (ROA) applied for the measurement of the profitability in this study. This ratio calculated as earnings before interest and tax (EBIT) divided by the total assets which is consistent with the previous study done by Hovey (2007). Besides that, Dessi and Robertson (2003); Rajan and Zingales (1995) and Nivorozhkin (2005) also used EBIT over total assets as proxy for firms' profitability measurement. This proxy is expected to provide clear approximation for company's performance.

There are several previous researches done to investigate the correlation involving external financing with the firms' profitability. Gabriela and Raluca (2009) have found that the money-making companies in Romania has little debt ratio but a lot of tangible assets fraction as predicted by the pecking order theory. Hence, they conclude that the pecking order theory is suitable for that market based on the sample size studied.

Besides that, according to Abdussalam (2006), all researches done are consistent with the view of having low debt will reduce the liquidity risk and then improve the firms' profitability. Then, Chen and Zhao (2004) has found that the firm with higher profitability is expected to use a lot of external financing because of lower debt financing costs incurred and not because of their intention to move toward target leverage ratios.

Based on Nivorozhkin (2005) and Rajan and Zingales (1995) the negative correlation between the firms' capital structure and its profitability is estimated for the United States' sample. The measurement used by them is same to this study which is EBIT over total assets. Dessi and Robertson (2003) also found that the profitability had strong negative relationship with leverage. The proxy used for profitability was earning before interest and tax (EBIT) plus depreciation divided by total assets. Therefore profitability had direct

relationship with the leverage. Moreover, based on the study made by Frank and Goyal (2004) also had found that companies which are profitable will use little external financing.

The market and book leverage were inversely associated to the firms' profitability which documented by the study made by Drobetz and Fix (2003). Thus, the result follows the theory of pecking order closely. Due to that, this finding is consistent to the research completed by Deesomsak et al. (2004). The companies that have stable financial standings will require lower level of external financing as compared to poorly perform companies (Hovakimian et al., 2001). Besides that, Booth et al. (2001) also have the same result no matter how the researchers explained their proxies.

The association of profitability and book leverage works as predicted by the model of pecking order, whereby it is an inverse correlation between them (Fama and French, 2000). Due to that, this means that when companies use little amount of debt in their business operation it will lead to their financial stability.

Moreover, the bad news about value is when leverage and debt is high. This is because it will leads to the agency problem in the company since different people will have different thinking and agenda (Fama and Miller, 1972); Jensen and Meckling (1976); Myers (1977)). The inverse relationship of capital structure and firm performance also has been found and proved by them in their studies. Since previous studies indicate mixed results concerning the association between profitability and leverage, our next hypothesis is as follows:

H_2: There is a significant relationship between profitability (ROA) and leverage.

Firm size

The next control variable used for this study is the firm size. The proxy adopted for this factor is the natural logarithm of total assets which is consistent with the previous study done by Anastasiya (2009); Deesomsak et al. (2004) and Hovey (2007). Hai-Chin Yu et al. (2007) and Shenoy and Koch (1995) also measured the firm size by the logarithm of the firm's book value of total assets which is consistent with Titman and Wessels (1988).

Small firms also tend to use credit in their business in order to achieve their required capital since limited amount of internal generated financing (Cole, 2009 and 2008). However, there also small firms that avoid to use debt in their business but reported a good profit which is better than firms that takes debt (Cole, 2010).

In Romania, based on Gabriela Mihalca and Raluca Antal (2009) the positive correlation of company's size and debt targets is predicted from the study. However, as said by Hijazi and Yasir (2006) the utilization of the debt will largely depends on the size of the company whereby if the company is big, they predicted to decrease its debt level appropriately and vice versa. So, the inverse correlation is proved among them. Then looking at the case of Pakistan, Shah and Hijazi (2005) reported that the companies tend to employ debt as they grow bigger and bigger.

Wan Mursyidah (2005) concludes that the Malaysian company's size significantly affect the capital structure in an affirmative way. This is because, the bigger firm tend to diversify away it businesses into different and multi angle in order to minimize risk (Ozkan (2001)).

In addition, there is the result that consistent with the theory of trade off, whereby the chance of non-payment among the bigger company is much lesser since the bigger company has more capital available. This judgment is supported by Bouallegui (2004) when he found larger company likes debt and small company dislike debt. Frank and Goyal (2004) also indicates bigger company will prefer high leverage.

Then, an inverse relationship between size and the probability of bankruptcy also predicted under the trade off theory. Due to that, it showed firms' size and debt move in the same direction or affirmatively as supported by Deesomsak (2004).

The leverage incurred by a company is related to its size whether it is big or small. If the company is big, the amount of debt also will be bigger and vice versa (Harris and Raviv, 1991). In the other findings where the bigger company will prefer to make use of debt due to the reason that they have enough capability to meet the debt payment ((Ennew and Binks,1994); Fabowale et al. (1995) and Riding et al. (1994)).

Coleman and Cohn (2000) found that the company size was significant and affirmative for the total debt to total assets ratio model but irrelevant to total loan. The small company will try to avoid debt since they are unaffordable to make bigger payment due to poor working capital management.

Scherr et al. (1993) reported that the small firm will tend to borrow from their relative to support the initial needed capital along with financial institutions. This findings also proved by Petersen and Rajan (1994) and Cole and Wolken (1995, 1996) which states that the financial institution were the biggest contribution for small company. In addition, both Myers' pecking order theory (1991) and Ang (1992) findings was similar to the above finding that small companies have little opportunity to employ debt and equity.

However, the small company actually prefers more debts (Carter and Van Auken (1990); Dwyer and Lynn (1989); Osteryoung et al. (1997) and Van Auken et al. (1995)) since they have little internal

generated financing especially equity capital (Carter and Van Auken (1990) and Van Auken and Holman (1995)). So our next hypothesis:

H_3: There is a significant relationship between firm size and leverage.

Growth

For this study, the market to book value ratio has been applied as proxy for growth which is consistent with the study done by Hovey (2007) and Booth et al. (2001). Besides that, it is also consistent with study done by Frank and Goyal (2009) that used market to book value ratio as the measurement for growth and found that firms which have a good market to book ratio have a propensity to avoid external financing. Ampenberger (2009) also anticipate market-to-book ratio to be inversely related to leverage.

The empirical study in support of this factor has been done by Achy (2009), whereby the link of growth prospective and short-term debt ratio appears to be positive and highly significant but irrelevant for long-term debt ratio. Chang et al. (2008) found that growth was inversely related to leverage and it reliable with Booth et al. (2001). In addition, a negative relationship between firm's growth and leverage also was reported by Shah and Hijazi (2005).

Huynh and Petrunia (2009) conclude that the growth is positively associated to the leverage since much money needed in order to grow the business operation especially to involve in a new prospect. Then, Billett et al. (2007) also state that the growth prospect is move in the same way as leverage.

Drobetz and Fix (2003) state that among all proxies variables, they found that external financing and investment opportunities are highly correlate to each other. Besides that, firms that have higher value of share price results to a little external financing. External financing and future growth of the firm are highly correlated. For example, if the external financing is high, the future growth also high for China (Chen, 2003).

In addition, based on the study done by Fama and French (2000), which had explained how the predictions for book leverage carry over to market leverage. According to the trade off theory, it predicts a negative relationship between leverage and investment opportunities. Since the market value grows at least in proportion with investment outlays, the relation between growth opportunities and market leverage is negative and this can be supported by Deesomsak et al. (2004).

However, Anderson and Makhija (1999) find that the correlation involving leverage and growth opportunity rely on proportionate use of external financing instruments. Bank loans and corporate bonds move in the same and opposite direction with growth opportunities, correspondingly. Meanwhile, Ghosh et al. (2000) found that debt and growth opportunities move in the opposite way. Abd. Ghafar and Nur Azura (2002), concludes for their study that the firms with high growth opportunity will prefer more debt.

Growth prospect availability makes firms to utilize more short-term debt rather than long-term debt (Barclay and Smith, 1995). This finding also was found by Bhaduri (2002) that the growth opportunities affirmatively correlated to the leverage of the firm. Dasgupta and Sengupta (2002) also found similar to the above judgment. Next hypothesis is

H_4: There is a significant relationship between growth and leverage.

Non-debt tax shields

The proxy of tax subtraction for depreciation over total assets was used as the measurement for non-debt tax shield for the company. The proxy applied is consistent with the study done by Hovey (2007) and Wald (1999).

Wan Mursyidah (2005), found that profitability, non-debt tax shields and size significantly affect the capital structure of the Malaysian companies. Besides that, Ozkan (2001) reported that non-debt tax shields using United Kingdom data was significant at 1% level and this finding is reliable to the study done by De Angelo and Masulis (1980).

DeMiguel and Pindado (2001) reported that the negative correlation relating non-debt tax shields with the leverage is exist in the Spanish firms due to higher non-debt tax shields in their position as compared to the United State firms. In addition, based on the study made by Shenoy and Koch (1996) they found a negative relationship between leverage and non debt tax shield. Consistent with this result, the judgment is also supported by Deesomsak (2004) when they also found an inversely related to leverage. In addition, study made by Bouallegui (2004) had also stated that leverage is closely related to the ratio of non debt tax shield. However, Gardner and Trcinka (1992) had got in contrast, when they found a positive one.

Maksimovic and Zechner (1991) demonstrate any changes in the corporate tax rate may affect the company's optimal debt level. Whereby, raising the corporate tax rate makes the project with the higher debt capacity more attractive and consequently, it is chosen by more firms. This tends to lower the highest cash flows generated by this project and thus decreases the debt capacity of firms choosing this project. Hence, firms that chooses the risky project decrease their debt levels as the corporate tax rate increases.

The increased probability of tax exhaustion from tax shields is likely to be trivial for firms that are far from the point of zero-taxable income. It is firms that are already close to tax exhaustion for whom tax shields have a large marginal effect. The empirical results clearly bear this out: Higher tax shields in the company make it incurred lower debt MacKie-Mason (1990).

Gordon and MacKie-Mason (1990), give better support for significant tax effects on financing choices. The hypothesis is that decreases in a company's effective marginal tax rate should reduce the desirability of external financing. This hypothesis has been supported by showing that, when tax shields are likely to reduce a firm's tax rate, it makes firms that incurred high tax shields will avoid to issue debt. Hence, tax rate changes may also affect debt policy, but with greater variation in statutory tax rates for careful measurement.

Auerbach and Poterba (1986), make the central hypothesis that the attractiveness of external financing at the margin increases with the firm's effective marginal tax rate on deductible interest. The implications tested here concern the effects of tax shields on financing decisions. When high shields substantially boost the possibility of tax fatigue, the firm faces a lower expected marginal tax rate and thus should be less likely to use debt. Next hypothesis is

H_5: There is a significant relationship between non-debt tax shield and leverage.

Tangible assets

The proxy used is the ratio of tangible assets to totals assets. This kind of assets used as collateral and thus increase ability to borrow. Besides that, the proxy used is reliable to the earlier study done by Hovey (2007). Gabriela Mihalca and Raluca Antal (2009) and Hai-Chin Yu et al. (2007) also calculated the tangibility as the ratio of total fixed assets over total assets (TFA/TA). The fixed assets ratio includes net property, plant, and equipment, is normally used as a proxy for potential secured-asset value.

From the recent study done by Ampenberger et al. (2009), they expect that the tangibility ratio to be positively associated to the company's leverage. According to Achy (2009), the effect of asset tangibility is also expected to vary between long-term and short-term debt behavior. In fact, the role of tangible assets is greatly more significant for long-term debt than for short-term debt.

Gabriela Mihalca and Raluca (2009) reported that the selection of the variables that have an impact on the external financing is largely follows the assumption from the theories of trade-off and pecking order and also from previous related research. Having the assets tangibility is necessary in making loan especially for a new company since they will not be easily trusted by the financial institution. So, the tangible assets move closely to the level of debt. Then, Rajan and Zingales (1995); Titman and Wessels (1988) also found similar for developed countries.

Besides that, Delcoure (2007) investigate capital structure determinants and found that leverage ratios of firms in transition economies behave differently from leverage ratios of firms in Western economies. For example, asset tangibility and profitability are negatively related to leverage in transition countries, while studies on Western firms report positive relationships.

In addition, according to Drobetz and Fix (2003) that has mentioned that the tangible assets move accordingly to the changes in the external financing. The result showed that regression coefficient on tangibility is significantly in about partly of all regression. The more recent research completed by Deesomsak (2004), where under agency theory the result showed tangible assets and leverage correlate positively like anticipated. This judgment is also supported by Bouallegui (2004) which showed that leverage is also strongly associated to tangible assets.

Pandey (2002) concludes that the assets tangibility of the company is significantly affirmative to the debt in the case of Malaysian companies. Besides that, asset tangibility also move in the same direction with the firms' debt based on study done by Fan et al. (2003) for sample of different country all around the world.

Booth et al. (2001), state that the mixture of assets in the company affects its decision making of the capital structure. If the company has a lot of fixed assets, it will result to an increase in the long-term debt. Rajan and Zingales (1995), also reported that the tangible assets will absolutely associated to the debt accordingly in all countries (both for the book and market leverage regressions).

Berger and Udell (1994) reported that the tangible assets and debt are inversely related. This is may be due to the reason firms that have a good reputation and well establish will be less required to make collaterals to get some loans. Due to that, it leads to our next hypothesis:

H_6: There will be a significant relationship between tangible assets and leverage.

Firm age

The number of years the firm has been in operation taken to represent the proxy for firm age. This study follows the study done by Hovey (2007) and Diamond (1991). Besides that, firm age also affect the debt level the case of China as suggested by Zou and Xiao (2006).

Cole (2008) concludes that the external financing of debt is inversely associated to the firm age. This is because, the new establish firm are not financially stable and the availability of the capital also limited. According to Abdussalam (2006), the firm age will also have some impact on the business structure. Besides that, the firm will become more financially strong if they are already established for a longer period and thus require less external financing of debt. Then, Cooley and Quadrini (2001) reported that the firm age is inversely related to the leverage.

The firm age is inversely correlated to the debt. A well established firm may not largely depend on the external financing since they are able to generate it internally through their own retained earnings and others (Jose et al., 2005).

However, Andres et al. (2005) reported that the firm age is positively associated to the debt. The older the firm, the better reputation and image they have. So, they are easy to obtain any loan and debt from the financial institutions. This judgment also is supported by Crabbe and Post (1994).

Meanwhile, Subadar et al. (2004) concludes that, the firm age was statistically significant and inversely associated to the debt level in the case of Mauritian companies. This is because, the mature the firm, the stable it is in term of financial standings.

Susan and Richard (2000) found that the firm age significantly affect the debt level in a negative way. New firms are largely depends on the external financing since they are incapable to meet the resources needed to run their business activity. Hussain and Nivorozhkin (1997) found that the firm age correlate negatively to the external financing. This is because the established firm is more likely to find the equity financing rather loans from financial institutions. Nevertheless, established firm are greatly easy to get loan as compared to the new one (Ennew and Binks (1994) and Weinberg (1994)). So, next hypothesis is

H_7: There is a significant relationship between firm age and leverage.

Duality

The dummy variable of 1 used when Chairman and CEO are the similar individual and 0 if they are not. This style of coding followed the study made by Hovey (2007). This proxy represents the firms' corporate governance either the firm has good corporate governance or not in managing their business. The duality of the firms' CEO means that the firms has similar person for CEO and Chairman in the management team and board of directors.

Abor (2007) states that the CEO duality in the Ghana does have an effect on the capital structure in an affirmative way. Hence, the corporate governance has an impact on the decision making regarding the capital structure choices in the firms.

The separation of CEO from management team and board of directors (BOD) indicates that the company has good corporate governance which results to a better performance of the company in the market. But if this judgment is not followed, the underperform company will exist (Palmon and Wald, 2002).

However, according to Sridharan and Marsinko (1997) the duality of the CEO does contributes toward the better performance of the company in the market. This is may be due to the reason that the same people managing the company have better knowledge for the company's future direction and benefits (Anderson and Anthony, 1986).

Based on Pi and Timme (1993), the different leaders in the management and control will results to a better performance of the firm as compared to the same leaders in management and control in the case of financial institutions.

On the other hand, Fama and Jensen (1983) documented that the duality of CEO just will make the company's performance become worst especially in the highly competitive market. This judgment proved by the real case happens in the United State like General Motors, IBM and others (White and Ingrassia,1992). Therefore, our hypothesis:

H_8: There is a significant relationship between duality and leverage.

RESEARCH METHODOLOGY

The samples that have been used for this study are based on 5 years period, gathered on the yearly basis for each variable. Besides that, 200 companies listed in the main market of Bursa Malaysia were taken. The sample involves 6 industries which is consumer products, industrial products, trading and services, construction, plantation and infrastructure. However, the financial institutions are not included in this study since they have different capital structure. All the data were sourced from capital IQ data based. In all, the data is made up of a total of 500 observations. The model used for this study was replicated from Hovey (2007) but based on more recent data. In addition, the replication of the model from Hovey (2007) which has done the study on the listed firms in China was found suitable for the Malaysian companies.

The data will be analyzed in order to determine the relationship between dependent variable of leverage with the independent variables which are government ownership, profitability (ROA), firm size, growth, tax shield, tangible assets, firm age and duality. The sample period for this study covers from 2005 to 2009 which is the yearly data. The

variables used for this study were largely adopted from previous literature (Hovey (2007); Rajan and Zingales (1995); Chen (2003) and Deesomsak (2004)). The dependent variable used for this study was leverage and the independent variables used were government ownership, profitability (ROA), firm size, growth, tax shield, tangible assets, firm age and duality. This model is consistent with the previous research (Hovey (2007); Wan Mursyidah (2005)). The equation for this model was shown:

$$Lev = \alpha + \beta 1Govt + \beta 2ROA + \beta 3Size + \beta 4Growth + \beta 5Tax + \beta 6Tang + \beta 7Age + \beta 8Duality + \varepsilon \quad \textbf{\textit{Equation 1}}$$

$$Lev = \alpha + \beta 1ROA + \beta 2Size + \beta 3Growth + \beta 4Tax + \beta 5Tang + \beta 6Age + \beta 7Duality + \varepsilon \quad \textbf{\textit{Equation 2}}$$

Where:

Lev = The leverage of the firm taken as total debt to equity ratio for the first (1) model and total debt to total assets ratio for the second (2) model.
A = A constant vertical intercept.
Govt = The government ownership.
ROA = The return on assets applying the EBIT to total assets model.
Size = Size is taken as the natural logarithm of the total
assets.
Growth = Growth opportunities taken as the market to book value ratio.
Tax = The tax shield, the proxy used for this study is the tax deduction for depreciation over total assets.
Tang = Tangible assets, the proxy used for this study is tangible assets to total assets.
Age = Firm age is the number of years the firm has been in operation.
Duality = A dummy variable taken as 1 if the chairman and CEO are the same person and 0 if they are not.
E = Error term

RESEARCH FINDINGS

Normality tests are use in the statistics in order to verify whether a set of data is well-modeled by a normal distribution or not. Besides that, it also to figure out how likely an underlying random variable is to be normally distributed. Meanwhile, the kurtosis is a measure of the "peakedness" of the probability distribution of a real-valued random variable based on the probability theory and statistics. If the value of the kurtosis is larger, means more of the variance is the result of irregular extreme deviations, as oppose to regular moderately sized deviations. So, the kurtosis is normal when its value is range within 3.

From the Table 4.1 below, it shows that the maximum value of leverage is 9.12136 while the minimum is -1.34481 and the average is 0.6983736. Besides that, for the government ownership the average value is 15.37%. The average value for return on assets is 0.0685999. Then, the average value for the firm size is 6.8219805. For the firm growth, the average value is 1.3783813. Meanwhile, the average value for tax, assets tangibility, firm age and duality is 0.2207623, 0.5697899, 38.80 and 0.11 respectively.

In addition, the standard deviation for the leverage is 1.00248581. Meanwhile, the standard deviation for the government ownership, return on assets, firm size and firm growth is 26.77%, 0.07261626, 1.74637878 and 1.49949187 respectively. Then, for the tax and assets tangibility the standard deviation is 0.19677245 and 0.34249735 correspondingly. The firm age and duality obtain the standard deviation of 35.856 and 0.313 respectively. Hence, the highest value of standard deviation is firm age and the lowest value is return on assets.

Then, the skewness value for the leverage is 3.088. The government ownership, ROA and firm size get the skewness value of 1.415, - 0.669 and 0.138 respectively. Besides that, the skewness value for growth, tax and assets tangibility are 4.187, 2.072 and 0.645 respectively. The firm age get the skewness value of 2.458 while the duality gets the value of 2.5. So, the result is normal for the government ownership, ROA, firm size and assets tangibility since the value is below than 1.96 value.

Lastly is the descriptive statistic for the kurtosis value. The leverage gets the kurtosis value of 15.273. Meanwhile, the government ownership gets the value of 0.414. The ROA, firm size and growth get the kurtosis value of 10.451, 0.604 and 22.733 respectively. Then, tax and assets tangibility get the value of 7.57 and 0.881 respectively. The firm age and duality gets the kurtosis value of 7.038 and 4.269 respectively. So, the result is normal for the government ownership, firm size and assets tangibility because the value is lower than 3.

As a conclusion, the above result shows that the overall data is normal and well-modeled.

Table 4.1. Descriptive statistics of leverage and control variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
LevDE	500	-1.34481	9.12136	0.6983736	1.0024858	3.088	15.273
LevDA	500	0	1.83052	0.2308756	0.2104862	1.813	9.115
Govt	500	0	90	15.37	26.767	1.415	0.414
ROA	500	-0.51512	0.36995	0.0685999	0.0726163	-0.669	10.451
Size	500	-0.34035	11.17553	6.8219805	1.7463788	0.138	0.604
Growth	500	-0.0387	12.73085	1.3783813	1.4994919	4.187	22.733
Tax	500	0	1.61532	0.2207623	0.1967725	2.072	7.57
Tang	500	0	2.2336	0.5697899	0.3424974	0.645	0.881
Age	500	3	209	38.8	35.856	2.458	7.038
Duality	500	0	1	0.11	0.313	2.5	4.269
Valid N (listwise)	500						

a. Predictors: (Constant), Duality, ROA, Government, Tang, Age, Size, Growth, Tax

b. Dependent Variable: LevDE, LevDA

Correlation matrix

From the table 4.2, it shows that association between non-debt tax shields and assets tangibility has the highest value of 0.767. However, there is no multicollinearity problem exist between the chosen independent variables due to the value is lower than 0.80 value.

The leverage is statistically significant with the ROA, firm size and tax at 0.01 levels. Besides, it also shows a significant result with the growth and firm age at 0.05 levels. However, insignificant result is shows between the leverage and other variables. The association of the ROA, tax and firm age are inversely related to the leverage. Meanwhile, the association of the firm size and leverage is positive. This means, the well performed and well establish company will significantly have lower level of debts. The bigger the company, the higher the debts level it will have in order to finance a big amount of diversification incurred.

According to the table below, the government ownership is statistically significant with firm size, tax and assets tangibility at 0.01 levels while the firm age is statistically significant at 0.05 levels. Insignificant results of government ownership with ROA, growth and duality also shows in the table. The positive associations are exist between the firm size, tax, assets tangibility and age with the government ownership. This indicates that the interference and involvement of the government happens in the big and well establish companies.

Then, the ROA shows statistically significant association with the growth and firm age at 0.01 levels. Meanwhile, for the firm size, tax and assets tangibility shows significant result at 0.05 levels. But for the duality, ROA is not significant. Whereby, the ROA has positive correlation with significant variables. This means establish firms will generates more income due to the strong position that they have in the market. They also have a good opportunity for growth since they are financially stable.

The firm size shows significant result with growth, assets tangibility and firm age at 0.05 levels. Meanwhile, the association between tax and duality is not significant. The firm size is move positively with the growth, assets tangibility and firm age. The older the firms in the market, the bigger they become. They also will have a better fixed assets management and higher fixed assets as they grow bigger.

The firm growth is statistically significant with tax, assets tangibility and firm age at 0.01 levels. Besides that, growth is positively correlated to the tax, assets tangibility and firm age. The older and establish firms will have good opportunity for growth investment in the other business activities together with the good value of their fixed assets.

Tax is statistically significant at 0.01 levels with the assets tangibility and correlate positively with the assets tangibility. The tax is not significant with the firm age and duality. For the assets tangibility, there is no significant result with the firm age and duality. Hence, the size, growth, tax, assets tangibility and firm age factors are important for the company to think about. This is due to the result shows that these variables are statistically significant among them. Based on the table 4.5, the collinearity statistic is done for the purpose to check for the multicollinearity problem between the independent variables in the model. The tolerance value will ranges from 0.0 to 1.0. Whereby, 1.0 value indicates that the multicollinearity present in the model. However, none of the independent variables above obtain the tolerance value of equal

to 1.0. Hence, multicollinearity does not exist in this model.

The variance inflation factor (VIF) also applies in this study in order to test for the existence of the multicollinearity problem. The value of VIF will range from 1.0 till infinity. If the value more than 10.0, the multicollinearity problem is exist (Gujarati, 2003). So, based on the table 4.5 above, there is no multicollinearity problem among each independent variable since the VIF value is less than 10.0.

Table 4.2. Correlation matrix

	Gowned	**ROA**	**Size**	**Grow**	**Taxes**	**Tang**	**Ages**	**Dual**	**De**	**DA**
Gowned	1.0000	-0.0220	***.357***	0.0860	***.283***	***.129***	***.091****	-0.0030	-0.0530	-0.0860
ROA		1.0000	.112*	***.479***	***.114****	***.093****	***.115***	-0.0020	***-.238***	***-.270***
Size			1.0000	***.287***	0.0680	***.153***	***.201***	-0.0170	***.229***	***.156***
Grow				1.0000	***.210***	***.192***	***.116***	-0.0310	***.098****	0.0480
TAxes					1.0000	***.767***	0.0040	-0.0050	***-.230***	***-.219***
Tang						1.0000	-0.0420	-0.0610	-0.0500	-0.0790
Ages							1.0000	-0.0850	***-.098****	***-.161***
Dual								1.0000	-0.0800	-0.0180
DE									1.0000	***.634***
DA										1.0000

**.Correlation is significant at the 0.01 level (2-tailed)

*.Correlation is significant at the 0.05 level (2-tailed)

Regression analysis

The above table 4.3 shows that the adjusted R square are 0.2923 (for LevDA) and 0.3353 (for LevDE). Its mean that 25.4% and 33.53% of the changes in leverage can be explained by the variability of the independent variables which is duality, ROA, government ownership, assets tangibility, firm age, firm size, firm growth and non-debt tax shields.

According to table 4.3 below, all independent variables are significant except the government ownership. The ROA, firm size, firm growth, tax, assets tangibility and firm age are significantly affects the leverage at 0.01 levels. Then, duality factor is statistically significant at 0.10 levels.

The ROA shows an inverse association with the leverage. This association is reliable to the previous study done by Abdussalam (2006), which states that all researches done are consistent with the view of having low debt will reduce the liquidity risk and then improve the firms' profitability. Then, Dessi and Robertson (2003) also found that the profitability had strong negative relationship with leverage. The proxy used for profitability was earning before interest and tax (EBIT) plus depreciation divided by total assets which is similar to this study. Therefore profitability had direct relationship with the leverage.

Besides, the firm size is positively associates to the leverage. The study done by Wan Mursyidah (2005) concludes that the Malaysian company's size significantly affect the capital structure in an affirmative way. This is because, the bigger firm tend to diversify away it businesses into different and multi angle in order to minimize risk (Ozkan (2001)). This judgment is also supported by Bouallegui (2004) when he found larger company likes debt and small company dislike debt. Frank and Goyal (2004) also indicates bigger company will prefer high leverage.

The growth is positively correlates with the leverage as per table 4.5. This is supported by the study done by Huynh and Petrunia (2009) conclude that the growth is positively associated to the leverage since much money needed in order to grow the business operation especially to involve in a new prospect. Then, Billett et al. (2007) also state that the growth prospect is move in the same way as leverage.

Furthermore, tax is negatively associates to the leverage. This is consistent to the study done by DeMiguel and Pindado (2001) reported that the negative correlation relating non-debt tax shields with the leverage is exist in the Spanish firms due to higher non-debt tax shields in their position as

compared to the United State firms. Wan Mursyidah (2005) also found that profitability, non-debt tax shields and size significantly affect the capital structure of the Malaysian companies.

The assets tangibility is positively relates to the leverage. This is reliable to the study done by Pandey (2002) which concludes that the assets tangibility of the company is significantly positive to the debt in the case of Malaysian companies. Besides that, asset tangibility also move in the same direction with the firms' debt based on study done by Fan et al. (2003) for sample of different country all around the world.

The firm age is negatively associates to the leverage. This is reliable to the study done by Cole (2008) that concludes that the external financing of debt is inversely associated to the firm age. This is because, the new establish firm are not financially stable and the availability of the capital also limited. According to Abdussalam (2006), the firm age will also have some impact on the business structure. Besides that, the firm will become more financially strong if they are already established for a longer period and thus require less external financing of debt.

Lastly, the duality is negatively associates to the leverage like the previous study done by Palmon and Wald (2002). Whereby, the separation of CEO from management team and board of directors (BOD) indicates that the company has good corporate governance which results to a better performance of the company in the market. But if this judgment is not followed, the underperform company will exist. Fama and Jensen (1983) documented that the duality of CEO just will make the company's performance become worst especially in the highly competitive market. This judgment proved by the real case happens in the United State like General Motors, IBM and others (White and Ingrassia (1992)).

Table 4.3. Fixed panel regressions on leverages and independent variables

Panel A (i): Debt ratio with Fixed effect				**Panel B (i): DE with Fixed effect**			
Variable	**Coefficient**	**t-Statistic**	**Prob.**	**Variable**	**Coefficient**	**t-Statistic**	**Prob.**
C	***0.2751***	***4.8455(***)***	***0.0000***	**C**	***0.6758***	***2.65132(***)***	***0.0083***
Gowned	***-0.0378***	***-1.7535(*)***	***0.0802***	**Gowned**	-0.0312	-0.3239	0.7462
ROA	***-0.8855***	***-7.2373(***)***	***0.0000***	**ROA**	***-3.6840***	***-6.1035(***)***	***0.000***
Size	***0.0143***	***2.5514(***)***	***0.0110***	**Size**	***0.0696***	***2.7945(***)***	***0.0054***
Growth	***0.0259***	***4.1517(***)***	***0.0000***	**Growth**	***0.1396***	***4.7698(***)***	***0.0000***
Tax	***-0.5316***	***-7.0626(***)***	***0.0000***	**Tax**	***-3.0996***	***-9.0260(***)***	***0.0000***
Tang	***0.2073***	***4.6099(***)***	***0.0000***	**Tang**	***1.2987***	***6.4689(***)***	***0.0000***
Age	***-0.0005***	***-2.0861(**)***	***0.0375***	**Age**	-0.0003	-0.2373	**0.8125**
Dualilty	-0.0117	-0.4660	0.6414	**Dualilty**	***-0.2208***	***-1.9474(*)***	***0.0521***
R-squared	0.3178	**Ad R-squared**	0.2923	**R-squared**	**0.3593**	**Ad R-squared**	0.3353
F-statistics	**12.4494(***)**			**F-statistics**	**14.9841(***)**		

Summary

Table 4.4. Summary table for 200 firms

Independent variables	**Hypothesis**	**Result LevDE (1%)**	**Result LevDA (5%)**
Government	Ho: There will be no significant correlation between government ownership and leverage (DE and DA)	Accept Ho	Reject Ho
ROA	Ho: There will be no significant relationship between profitability (ROA) and leverage (DE and DA)	Reject Ho	Reject Ho
Size	Ho: There will be no significant relationship between firm size and leverage (DE and DA)	Reject Ho	Reject Ho
Growth	Ho: There will be no significant relationship between growth and leverage (DE and DA)	Reject Ho	Reject Ho
Tax	Ho: There will be no significant relationship between non-debt tax shield and leverage (DE and DA)	Reject Ho	Reject Ho
Tang	Ho: There will be no significant relationship between tangible assets and leverage (DE and DA)	Reject Ho	Accept Ho
Age	Ho: There will be no significant relationship between firm age and leverage (DE and DA)	Reject Ho	Reject Ho
Duality	Ho: There will be no significant relationship between duality and leverage (DE and DA)	Accept Ho	Accept Ho

CONCLUSION

This study determines the association between government ownership, leverage and profitability which is two proxies applies, (LevDE) and (LevDA). Besides, this study involves 100 listed firms in the main board of the Bursa Malaysia for the period of five years starts from 2005 - 2009.

Based on the findings from regression of GLCs and Non-GLCs, all independent variables are significant except the duality when applies second model (LevDA). The ROA, firm size, firm growth, tax and age are significantly affects the leverage at 0.01 levels. While, the government ownership and assets tangibility are shows significant association at 0.05 levels. The government ownership is negatively relates to the leverage. It means that the government has an involvement in term of the managing and controlling the debt over total assets.

The profitability which is represents by the proxy of ROA shows a significant result for the both proxy of leverage. Thus this indicates that the well performed firms will less likely to have a higher value of debt since they are already financially stable. This is may be due to the ability to get the required capital since they have the support from the government.

Then, when do the regressions on the GLCs alone applies both model, the ROA is statistically significantly affects the leverage. The ROA shows an inverse association with the leverage. This indicates that, if the firm has higher level of debt, it will reduce their profitability since they have to use their profit or revenue to settle or cover their debt.

As a general conclusion, both model shows different result about the significant correlation.

Limitations

There are several limitation happens in the completion of this project paper. The main problem is the time constraint. This is because, the data collection and data key in is time consuming which require a lot of patience. Besides, there also possibility for the mistake to happen during the data key in process although it have been check for so many times.

In addition, this study only uses two models for the measurement and comparison. So, the result of the findings may not be too strong and accurate to see the real impact on the leverage. Then, due to the data constraint it limits me from further and details analysis for the finding part. Hence, it also will not represent the actual results.

Implication of the study

This study may enable the companies to make better decision regarding their external financing which is debt. The level of debt in the firm need to be wisely decide in order to ensure that the firms' performance and other variables will not be affected to the bad and worse way.

The inverse association of leverage and profitability implies that the firms are able to get the required capital easily due to the higher level of profits. The existence of government support and backup also will ensure the level of debt in the firms is at the controllable level. The financially stable firms are able to pay the debt at the required time and amount.

Besides, different model measurement will have different results and interpretation. So, it is provide a good guide to the companies in determine the optimal capital structure in their business operation. Lastly, the company also will know which factors contribute to the higher or lower level of leverage in the company.

Recommendations

Based on the result of the findings and analysis of the study, there are several suitable recommendations that can be made. Thus, to give a better explanation, the recommendations are divides into different part like:

Recommendations for future research

It is strongly recommends that the future research must collect more data which is more than five years if possible in order to get reliable and convincing results on the effect of profitability and government ownership on the leverage. In addition, the future research must extend this research into more details regression, test and analysis. Besides, the variables also need to have an additional either for the dependent or independent. Moreover, the proxy for the leverage measurement also need some additional in order to have a better and strong results.

Recommendations for the firm

This study is very useful for the firm since result of the findings will give some valuable knowledge to the firm. This is because, the additional information regarding the effect of the profitability and government ownership on the leverage will ensure the firm will make a good and wise decision for their investment opportunities and business activities.

Recommendation for the government agencies

The interference and involvement of the government in the firm in the market will definitely

contribute to some changes especially in term of leverage levels.

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