

## **A Review Study on Determinants of Capital Structure**

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### **Introduction**

Capital structure, one of the most studied aspects in modern corporate finance school of thought, is an important decision for management to ensure the financial health of firm to be in good condition. The information on capital structure is essential for every stakeholders of a firm to make their decisions pertaining to the firm. Suitable capital structure is not only imperative for maximization of interest of every stakeholders of an organization, but also crucial for the organization to compete effectively and efficiently in its operating environment (Simerly and Li, 1999). Fallacious choice of capital structure would not only lead to its financial distress, but also ultimately drag the organization into insolvency (Eriotis et al., 2007).

### **Capital Structure**

Studying firm's capital structure is important as it plays important role in creating value for the firm via the effect of tax, information asymmetry, and agency cost (Tang and Jang, 2007). Besides that, financial theory also has been used by firms to choose the best composition of capital structure that enhances the firms' value (Eriotis et al., 2007). Therefore, study on capital structure would provide valuable insights on how strategic decision of firms in implementing investments would affect its value, which in return, used to determine its position in the market. Modigliani and Miller (1958) initiated the most significant study on this topic, which was followed with various studies that have been conducted in diverse dimensions of capital structure. It was argued that after fifty years of Modigliani and Miller research, understanding on firms' financing choices is limited, where information on financing tactics such is apprehended well than information on financing strategy such as a firm's choice of target capital structure (Myres, 2001).

This is because objective of past studies has devoted much attention on usual determinants of capital structure, which includes variables like size, profitability, growth, tax-effect, stock price, etc. Relationship between these variables and capital structure has been extensively researched.

Despite its theoretical appeal and vast exploration, researchers in financial management have not achieved consensus on capital structure and its optimality. It was only the ways to achieve short-term capital structure objective were able to be identified in most of these studies (Simerly and Li, 1999). It was pointed out that there is clear evidence of lack of consensus in identifying other determinants of capital structure (Delcours, 2007).

Fast advancement of agency theory with emphasis on bankruptcy costs and agency cost has contributed the argument that corporate governance has important role in capital structure (Seifert and Gonenc, 2008). Among newly identified determinants that influence capital structure, corporate governance has been identified as one of decisive factor that affects firm's capital structure decision (Delcours, 2007). For this purpose, ownership structure is commonly used as proxy for corporate governance (Booth et al., 2001; Zou and Xiao, 2006).

### **Key Terms of Capital Structure**

#### **Capital Structure**

Capital structure refers to the allocation between debt and equity in financing of a firm asset. A perfect capital structure decisions encompasses four main aspects, i.e. target capital structure, specified source of financing, its maturity and timing (Brigham and Ehrhardt, 2005).

Investopedia defines capital structure as a mix of a firm's long-term debt, specific short-term debt, common equity and preferred equity used to finance its overall operations and growth, where debt comes in the form of bond issues or long-term notes payable, while equity is classified as common stock, preferred stock or retained earnings. Short-term debt such as working capital requirements is also considered to be part of the capital structure.

#### **Debt Financing**

Debt financing is external source of financing, where the firm would borrow money from outsiders, namely from capital market or financial institutions. Types of debt financing include bonds, commercial papers, term-based financing or short term financing.

Debt holders would have priorities in settling their portion of obligation at any event of default of the firm. The debt holders usually charge interest on the firm and this expense is tax deductible for the firm.

### **Equity Financing**

Equity financing refers to internal source of funding, which is usually in the form of new shares issuance, utilization of retained earnings and issuance of bonus shares. Basically, there are two types of shares that would be issued by a firm, i.e. common shares and preferences shares. Common shares provide control right to the shareholders in the form of voting rights. Common shareholders are residual owners of the firm. Preferred stock, which is less frequently used, usually has pre-determined dividend rate. The claim of these stockholders for a firm's assets at the event of default falls between that of common share and debt.

### **Optimal Capital Structure**

Optimal capital structure refers optimal mixes of debt and equity that has ability to maximize the stakeholders' value (Tang and Jang, 2007). It has been argued that although theoretical and empirical research suggests that there is an optimal capital structure, there is no specified methodology formula to determine the ideal capital structure that fits to all industries across nations (Eriotis et al., 2007).

### **Determinants of Capital Structure**

Capital structure is a fundamental aspect of corporate finance that delves into the study on the approach a firm chooses its source of financing to fund its investments in acquisition of assets. In making decisions on capital structure, the firm should always gauge its operating environment, both external and internal (Hovakimian et al., 2001).

### **Overview on Theories**

An essential matter in corporate finance involves understanding how firms choose their financing choices and it is apparent that there is no consensus on theories that explains a firm's perfect capital structure (Seifert and Gonenc, 2008). Modigliani and Miller (1958) initiated the first study on capital structure which concludes that capital structure is immaterial in a corporate world without taxes, transaction costs or other market imperfections. The study proved that given the mentioned conditions, firm value has no relationship with capital structure.

As theory by Modigliani and Miller (1958) lack of practicality in its assumptions, the next generation of researchers explored into meticulous conception of capital structure that made possible to emergence of two more prominent theories in capital structure literature, i.e. tradeoff theory and pecking order theory.

### **Modigliani-Miller Theorem**

This pioneer study was designed by Modigliani and Miller (1958) on assumption that there is existence of market perfection in capital market. Therefore, the market operates without transaction costs, bankruptcy costs and information is available for everyone in the market. Modigliani and Miller (1958), in other words, asserted that financing decisions of firms are undertaken with identical interest rate and without tax. As a result, cost of equity is same for firms which are, both, leveraged and non-leveraged. For the non-leveraged firm, premium is included for financial risk. Ultimately, these assumptions are pointing out that value of the firm is independent to its capital structure. Subsequent studies after Modigliani and Miller (1958) were conducted premised on lesser limiting conditions. One main consideration was taxations that were included as one of determinants of capital structure (Eriotis et al., 2007). This includes tax rate on corporate earnings, tax rate on dividend income and tax rate on interest inflows income. Tax incentive is vital for corporate borrowings as it is able to take advantage of interest tax shields (Myres, 2001).

### **Trade-Off Theory**

Modigliani and Miller (1958) argument that capital structure does not exist in perfect market is irrelevant as in real world, imperfections in market is apparent. This weakness is addressed in trade off theory. The term trade-off theory is used by different authors to describe a family of related theories. It is based on firm's choice of source of financing after equating the cost and benefits of each of the source, i.e. marginal costs and marginal benefits (Frank and Goyal, 2003). The balancing of both aspects determines the optimal capital structure (Seifert and Gonenc, 2008). The tradeoff theory states that a taxable corporation should increase its debt level until its tax advantages of borrowing against the costs of financial distress is balanced. Debt level is expected to be increased to the limit where marginal value of tax shield is equal or lesser to present value of possible financial distress costs (Delcoure, 2007).

The theory, deemed static, designed under presumption that optimal capital structure is achieved when advantage of the tax shield benefits of debt is equal to increased likelihood of incurring debt-related bankruptcy costs (Beattie et al., 2006). Thus, firm's debt position should be at the level where the tax advantages of additional debt are equal or more of the costs of possible financial distress (Myres, 2001). It has been emphasized in the theory that firm with sound tangible assets would borrow more than firms with high intangible assets.

Trade-off theory explains that debt financing is a better financing choice given its ability to provide tax shield. In debt financing, firms would incur interest expenses that is deductible from earnings before interest and tax, which reduces the taxable income of the firms (Jiraporn and Liu, 2008). However, debt financing is exposed to default risk that points towards probability of bankruptcy. Hence, firm should weigh these two aspects in deciding its optimal capital structure level. Limitation of trade-off theory is apparent from its failure to explain stock market reaction to leverage-increasing and leverage-decreasing transactions (Seifert and Gonenc, 2008).

### **Pecking Order Theory**

If in trade-off, bankruptcy cost is included, in pecking order theory (Myers, 1984) the asymmetric information element is included. The pecking order hypothesis describes a hierarchy of financial choices for a firm, which starts from internally generated financing to debt and lastly outside equity (Seifert and Gonenc, 2008). Pecking order theory suggest that management would prefer equity financing in favor of debt financing in view of information asymmetry condition and benefit of reduced transactions costs.

Based on this theory, highly profitable firms will tend to use internal funding, whereas firms with low profitability tend to use external financing. Based on this theory, in the context of internal finance, internal fund such as retained earnings is preferred and as for external financing, debt is chosen over equity (Tang and Jang, 2007). The theory can be related to few aspects like agency costs, taxes, transaction costs and information asymmetries (Seifert and Gonenc, 2008).

The theory asserts opposite relationship between profitability and debt usage (Tang and Jang, 2007). If a firm's use of external financing would indicate that the firm is not profitable, its stock price may be adversely affected.

This related to information asymmetric where the managers usually have more information on the firm. Therefore, they would issue new shares when it is believed that the stock price is fairly or overly priced only.

Information asymmetric also occurs when external financing signals the firm's red profitability, which may affect the share price. Hence, new shares would be issued only when stock price of the firm is deemed favorable. This may again be wrongly interpreted as the firm is not profitable and sourcing for external financing. Therefore, debt would be used first instead of new stock issuance for financing requirement. Large cash reserves and availability of financial slack are resultants of this type of corporate practice (Seifert and Gonenc, 2008).

Besides in information asymmetric, easy access to internal fund and lesser transaction costs are reasons for utilization of internal fund first before debt financing (Chen, 2004). It is also argued that profitable firms borrow less for the reason that they have their own internal fund to be use first (Myres, 2001). The theory also does not back optimal capital structure as it is believed to be dynamic over time (Romano et al., 2001). Nevertheless, in long run, firms are expected to identify their capital structure that is consistent with tradeoff models of capital structure choice (Hovakimian et al., 2001).

### **Agency Cost Theory**

Tang and Jang (2007) reviewed Jensen and Meckling (1976) that agency cost theory induces positive relationship between level of debt and shareholders' value. There are two forms of agency conflicts; manager-shareholders and creditors-shareholders, where the conflict between manager and shareholders is about fulfilling the respective parties' individual interest. For example, managers in profitable firms use equity financing given the availability of free cash flow. Hence, the managers are not committed to debt-repayment.

This would potentially reduce the shareholders value (Tang and Jang, 2007). Thus, debt financing is identified as tool to ensure that managers increase shareholders' value instead of making money for themselves (Chen, 2004).

### **Signaling Hypothesis Model**

Signaling hypothesis model states that high-value firms are able to use more debt financing because debt has its dead weight costs, which make less valuable companies more likely to fall into bankruptcy – hence predicts that the firms with the best earnings and growth prospects will employ the most leverage. This model states the firm with higher value would use more debt as it has less probability of being insolvent – hence suggesting that firms with high growth rate and large size would resort in debt financing (Chen, 2004). However, alternative argument states negative relationship between growth and leverage in view of the fact that growth opportunities cannot be collateralized (Lang et al., 1996).

### **Determinants of Capital Structure**

Consequent to these theories, there were continuous studies made in relation to capital structure. Noteworthy numbers of studies were embarked on to compare and test the relevancy of these theories (e.g., Shyam-Sunder and Myers, 1999; Fama and French, 2002; and Frank and Goyal, 2003) as reviewed by Beattie (2006). In pursuing these studies, the researchers also have attempted to determine the optimal capital structure level and cohesively concluded that there is no optimal capital structure level for specific firm.

Existence of optimal capital structure level still remains vague with no proper methodology specified to ascertain the said level of capital structure based on individual firm's financial standing. It is always the level of capital structure that maximizes the value of the firm that is regarded as optimal capital structure (Eriotis et al., 2007).

Most researches on capital structure concentrate on factors that determine the capital structure of firms. The studies were conducted based on countries, i.e. comparison among East Asia countries by Driffield (2007); Turkey by Arslan and Karan (2006); US by Jiraporn and Liu (2008); Ghana by Boateng (2004); Swiss by Gaud et al. (2005); emerging countries in Latin America, Asia (excluding Japan), Africa, the Middle East, and Eastern Europe by Mitton (2008) and in Malaysia by Suto (2003). Studies in each countries differs according exclusive environment of the country with similar determinants.

There were other aspects also included in past studies. The study in Malaysia, of which the data was taken prior to 1997 financial crisis, has included dependency on banks as one of determinants given close relationship of government-linked companies with banks in the country during that period of time. Study by Boateng (2004) in Ghana has included ownership structure as one of determinant given the fact that Africa is perceived to be a risky place to do business.

There were also refined studies conducted to further examine functions of capital structure in terms of maturity structure of corporate debt (Datta et al., 2005), firm-stakeholder interaction (Arslan and Karan, 2006) and corporate control concerns (Ghosh et al. (2007); Du and Dai, 2005), which gives new perspective to capital structure studies.

### **Financial Characteristics**

As highlighted earlier, most studies in identifying capital structure has revolved around similar sets of determinants such as size, growth, profitability, liquidity and interest coverage of the firm. These determinants are classified as financial characteristics of the firm. The second set of determinants, which is key thrust of this study, would be classified as ownership structure of the firm, where firms are differentiated based on family-owned, state-owned and foreign-owned. All the determinants are explained based on its theoretical relevance and empirical evidence describing the relationships between the determinants and capital structure.

### **Size of Firm**

Size of firm are one most common variables used to be tested as explanatory factor for capital structure. Trade-off theory lays down that large firms are expected to have a higher debt capacity given the fact that large firms tend to be well diversified and has lesser probability to be financially distressed which may lead to insolvency and bankruptcy cost (Nivorozhkin, 2005). As a firm becomes more diversified, the exposure to higher transactional costs and bankruptcy cost reduces (Chen, 2004).

Generally, larger firms have better access to debt market, which primarily constituted by banking and financial institutions, for few reasons. Firstly, it can be related to usual association of these large firms with government-sponsored investment programs, whereby there is explicit and implicit guarantee from the government on borrowings by these firms (Nivorozhkin, 2005).



Secondly, the lower risk with larger firms encourages banks to borrow to these companies more than smaller companies which have higher risk in defaulting (Boateng, 2004). Thirdly, larger firms has capability to negotiate better pricing and minimizes the transactional cost that makes debt financing a better choice for these companies(Beattie et al., 2006). Fourthly, given the large size of these firms, any failure of these firms may carry huge social and economical implications (Nivorozhkin, 2005). Finally, as stressed in trade-off theory, firms which has large and safe tangible asset has more tendency to borrow given the value of collateral that can be raised from these assets (Myres, 2001).

In terms of agency cost in relations to debt, large firms that usually have diluted ownership, would enable easy decision making by the managers to borrow (Delcoure, 2007). Therefore, managers of large firms are able to increase the firm's leverage without much problem. Past studies (Gaud et al. (2005); Arslan and Karan (2006); Huang and Song (2006); Mitton (2008); etc.) have concurred that size of firm has positive relationship with debt ratio. The relationship between the firm size total and short-term debt is positive and statistically significant (Delcoure, 2007). The positive effect of firm size on leverage target can likely be explained by the fact that size serves as a stability proxy for lenders (Nivorozhkin, 2005).

### **Growth of Firm**

Pecking order theory stipulates that firms with higher growth opportunities would use more of equity financing as they would reserve the debt financing for period after the realization of the growth (Delcoure, 2007). The effect of asymmetric information between managers and owners would encourage lesser commitment of debt financing (Nivorozhkin, 2005).

Agency cost also plays important effect on financial decision for high growth firm. Equity financing would be sought to undertake new projects instead of debt financing by firms with high growth opportunities as a mechanism to minimize agency costs (Jong et al., 2008). Firms with high-growth opportunity resort for debt as last option, hence leverage is expected to be negatively related with growth (Huang and Song, 2006).

As in trade-off theory, firms with good growth opportunities has less probability to borrow based on growth opportunities as it cannot be used as collateral in borrowing – hence would resort for equity financing (Gaud et al., 2005).

Asset substitution effect may cause high growth firms to capitalize from debt holders to shareholders, hence firms to rely on equity financing more (Chen, 2004). Upward stock price movement is usually associated with improved growth opportunities, which at the end would result in lower debt ratio (Hovakimian et al., 2001).

High growth firms also avoid debt financing for few reasons. Firstly, debt financing may cause the firms to be dictated by the lenders, especially on their future earnings (Tang and Jang, 2007). Secondly, as growth is intangible, it would be not wise to commit with debt servicing without having solid cash inflow (Deesomsak et al., 2004). Past studies (Gaud et al., 2005; Delcours, 2007; Fattouh et al., 2005; Chen, 2004) asserted that growth is negatively associated with leverage.

### **Profitability of Firm**

Pecking order theory states that profitable firms would tend to use internal funds to finance their expansions (Tang and Jang, 2007). Additionally, the profitable firms choose to commit debt for the same reason that their future profits would be subject to terms and conditions by the lenders – thus resulting in inverse relation between profitability and leverage (Deesomsak et al., 2004). Asymmetric information theory suggests that firms' use of fund would follow the hierarchy of retained earnings, debt and finally new equity (Jong et al., 2008).

As an alternative argument, to avoid incurring excessive tax, tax-based models recommends profitable firms should borrow more and incur interest cost, instead (Huang and Song, 2006). Nevertheless, this is again has to be weighed against the expected bankruptcy costs. Study by (Deesomsak et al., 2004) revealed that Malaysian firms prefer to use internal sources of funding when profits are high, hence showing negative and significant relationship with leverage. Study by Gaud et al. (2005), Chen (2004) and Booth et al. (2001) also revealed statistically significant negative relationship between profitability and leverage.

### **Liquidity and Interest Coverage**

In assessing the credit application by firms, banking and financial institutions give paramount importance to ability of firm to service debt obligations, which is reflected in the firm's interest coverage ratio.

This is also tied to the liquidity level of the firm, which is the ratio of current assets to current liabilities. It indicates the ability of the firm to pay creditors in the short-term (Manos, et al., 2007).

Liquidity and leverage are expected to have negative relationship as firms tend to use the extra cash to finance their investment instead of incurring interest costs (Deesomsak et al., 2004). Additional debt would deteriorate the current ratio further and makes the firm's financial standing weak (Eriotis et al., 2007). Similarly, increases in cash refer to increase in current assets that result in high current ratio. Hence this shows higher liquidity available to finance growth as argued in pecking order theory (Hovakimian et al., 2001).

Manipulation by managers to use liquid assets in favor of shareholders instead of debt holders raises the agency costs of debt – resulting in negative relationship between liquidity and leverage (Deesomsak et al., 2004). There is a negative relation between the debt ratio of the firms and quick ratio and interest coverage ratio as proven by past studies (Harris and Raviv, 1990; Deesomsak et al., 2004; Eriotis et al., 2007; Manos et al., 2007).

### **Ownership Structure**

Different types of ownership have influence in determining the capital structure of firm. Clear separation of shareholders and management is the fundamental basis for agency cost. Each group has their own interest in decision making process of the firm, including capital structure decision. Ownership structure is long considered as a tool in managing agency cost. Conflicts of interest in agency cost are grouped into conflicts between shareholders and managers and conflicts between shareholders and debt holders (Huang and Song, 2006). The existence of clear separation between ownership and control requires debt financing as tool to monitor the performance of managers (Datta et al., 2006). Risk aversion of the managers also determines the level of financial leverage (King and Santor, 2008). Apprehending this factor would enable shareholders to impose debt financing as a tool for corporate governance. Debt financing able to minimize the self benefits of managers reaped from their controlling position (Pindado and Torre, 2006). This will ensure the managers to work towards the aim of increasing the firm value.

When the firm is committed to debt, the managers are obligated to service the interest payments – failing which results in insolvency of the firm. This places pressure on managers to ensure performance of the firm is not affected by their self-interest actions (Kochhar, 1996). Therefore, by having debt financing as control tool, shareholders are able to prevent managers from misusing their positions and instead focus their resources in increasing the firm's value. This underlines the fact that capital structure decision can influence the action of the managers (López-de-Foronda et al., 2007).

Separation of ownership and management which is prevalent in state-owned and foreign-owned firms would be useful to determine the characteristics of managers in these types of firms in their capital structure decisions. Managerial ownership is prevalent in current times, where largest shareholders with high concentration have the control over the firm's management.

Recent studies of corporate ownership structure demonstrate that dispersed ownership structure is far from a norm around the world. The majority of corporations in most countries exhibit concentrated ownership (Du and Dai, 2005). Concentrated ownership here can be related to family-owned firm, where individuals and close family members having accumulated large interest in the firm.

### **Family-owned Firms**

A firm is considered a family-owned if an individual together with his/her family members have more than 5% shareholding in the firm. Family encompasses both individual and family investors, who shares same organizational motivations (Tam and Tan, 2007).

Agency cost literature argues that large institutional shareholders should have enhanced incentives and capabilities to monitor managerial behavior closely. At most times, the owners themselves act as managers. Thus, there is less need for debt to function as disciplining tool for managers. Therefore, shareholdings of family ownership are expected to be negatively correlated with leverage (Zou and Xiao, 2006).

Family legacy and concentration of family wealth in the business also causes family-owned to have less appetite for debt financing (King and Santor, 2008). This also supports the argument of negative relationship between family-owned firms and leverage.

### **State-owned Firms**

Firm is regarded as state-owned if more than 5% of its total shares are held by any government and/or government related agencies. Zou and Xiao (2006) predicted that firms with substantial state ownership are more likely to have a higher debt ratio than other firms as it is argued that state-owned firms has green lane for bank borrowing.

Financial decisions of state-owned firms are different from other firms as these firms are easy to obtain loans given preferential treatment by the banks due to state ownership (Manos et al., 2007; Tam and Tan, 2007). Hence, state-owned structure is expected to have positive relationship with leverage.

### **Foreign-owned Firms**

Any direct interest from foreign parties, both individual and corporation, in local firm with more than 5% stake is considered as foreign firm. Requirement for monitoring tool for the managers, debt financing noted to be best option for foreign owners to assess the performance of the local subsidiaries. The foreign owners are able to discipline the local managers via debt financing as foreign firms uphold corporate value and transparency (Suto, 2003; Zou and Xiao, 2006). Flexibility in repayments from home countries plus perception of local bank banks towards foreigners warrants for debt financing for foreign owned forms (Boateng, 2004). These reasons thus suggest a positive impact of foreign ownership on the use of debt.

### **Conclusion**

Capital structure of a firm is still dependent on various factors, which has been studied in the past that has been included in this study too. Interestingly, ownership structure should be given more accentuation as few studies conducted in recent years has argued that it has direct and indirect implication on capital structure. The point of view in research is important given the function of ownership structure as a dimension of corporate governance. As concluded in this study, the role of ownership structure in the form of family ownership though is not significantly related to capital structure, its inclusion in the empirical equation changes the significance of other determinants variables.

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