

Determinants of Capital Structure

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Abstract

Capital structure is the financial decisions regarding raising of funds from several sources of funds which comprise of internal (retained earnings) and external financing (debt and equity). As a commercial companies, manager will concern on minimizing cost, thus good financial decision is refer to raising funds at low cost. In ensuring the survival of firms, manager needs to have proper capital structure's strategy and capital structure is said to be optimal when it has low acquiring funds cost and at the same time maximizes the company value. The objective of this paper is to review the determinants of capital structure among firms. Based on library research method, this paper found that firm's characteristic play an important roles in determining firm's capital structure.

Keywords: Capital Structure, Firm's Characteristics

1. Introduction

Capital structure is the financial decisions regarding raising of funds from different sources of funds (Awan & Amin, 2014; Groth & Anderson, 1997; and Alom, 2013) which comprise of debt and equity. While, according to Affandi, Mahmood & Shukur (2012), firm's capital structure deals with a mixture of different securities but the most basic and important financial sources are retentions, shares and debt. Whereas, Acaravci (2015) mentioned firm's capital structure

comprise combination of short term debt, long term debt and equity. Thus, firm actually have several alternatives in financing their business and operations.

2. Background Review

Determinants of capital structure have received much attention among the researchers. Furthermore identifying the determinants of capital structure also can help investors and managers of firm as it will provide better understanding of the firm capital structure's strategy by considering companies' characteristics in order to make more informed and better decisions.

Most of the past literature concentrated on this area have been carried out in developed countries for example (Frank & Goyal, 2003; and Seppa, 2008), and developing countries (Colombage, 2007; Handoo & Sharma, 2014; Khan, Shah, Haq, & Shah, 2014; Sekar, Gowri, & Ramya, 2014; and Jahanzeb & Bajuri, 2014). While one of the paper did a comparative studies between Muslim and non-Muslim countries (Gunn & Shackman, 2014). Besides that, plethora of studies used secondary data collection either from annual report or through the database like Datastream, Compustat, and Worldscope Global (Frank & Goyal, 2003; Khan et al., 2014; Gunn & Shackman, 2014; and Sekar et al., 2014).

The past literature examined the capital structure from various specific industries of the economy, such as property industry (Affandi, Mahmood, & Shukur, 2012; and Haron, 2014), computer software industry (Babu & Chalam, 2014), halal certified micro and SMEs industry (Jaffar & Musa, 2014), shipping industry (Anna, Theodoropoulou, Triantafyllou, & Laios, 2015), pharmaceutical industry (Saeed, Munir, Lodhi, Riaz, & Iqbal, 2014), construction industry (Sahudin, Mansor, Mahmood, and Isa, 2014) and manufacturing industry (Sekar, Gowri, and Ramya, 2014; Acaravci, 2015; and Akinyomi & Olagunju, 2013). However, most of the past studies excluded the financial industries for example studies done by (Ishikawa & Takahashi, 2010; Gunn & Shackman, 2014; Danso & Adomako, 2014; Kayo & Kimura, 2011; Arosa et al., 2014; Lewis & Jais, 2014; Alom, 2013; Dashtbayaz & Mohammadi, 2016; and Alves et al., 2015). Financial industries are excluded from the sample because they have specific capital requirement decision and tend to have a distinct capital structure from other industrial firms.

From the past empirical studies, it is conclude that industrial classification is an important determinant of capital structure. This supported by Nimalathasan (2011); Alom (2013) and Kayo & Kimura (2011) mentioned that, the analysis of data on capital structure decision among sampled different industries investigated was significantly varied. This is due to the various industries subject to have various degrees of risks and characteristics. Kayo & Kimura (2011) also agree that industries have the power to influence the internal firm characteristics and will directly influence the capital structure.

3. The Effect of Firm Characteristic on Capital Structure

It is widely accepted that the decision on capital structure depends on firm-specific characteristics (Sheikh & Wang, 2010; Chen, 2004; Handoo & Sharma, 2014; Chang, Chen, & Liao, 2014; and Anna et al., 2015), for example profitability, size, asset structure, growth opportunities and liquidity etc. Finding from Kayo & Kimura (2011) indicates firm characteristics explain 78% of firm leverage and this confirm that it is important to include company's characteristics in examining capital structure. According to Jahanzeb & Bajuri (2014), tangibility, growth opportunities, profitability, non-debt tax shields and firm size is the most commonly variables used for determining capital structure. To make the study more comprehensive, their study adopted another two variables named as business risk and liquidity.

Similar to Haron & Ibrahim (2012); Khan et al. (2014); and Babu & Chalam (2014) which also used tangibility, growth opportunities, profitability, non-debt tax shields and firm size as a determinant for capital structure. But, Haron & Ibrahim (2012) deepens the study by adopting country specific variables and share price performance. While Khan et al. (2014) added another variables named as free cash flow and interest.

3.1 Relationship between Profitability and Capital Structure

Profitability is a proxy for three dominant traditional capital structure theories. Chen & Chen (2011) indicate those profitability and growth rates are the most important factors on capital structure. Their results show negative relationship between profitability and leverage. This result is consistent with Pecking Order Theory. The more profitable firms indicate that the firm has more internal resources to finance their investment. Thus, it will reduce the consumption of external financing. As a result, the leverage ratio of the firm will reduce subsequently and this matter aligned with Pecking Order Theory. Pecking Order Theory states that firms prefer to finance new investments with cheapest available sources that is internal financing and then by issuing safest security that is debt, thereafter convertibles and finally with new equity. The rationale of companies to follow this financing pattern due to costs that arise from asymmetric information or transaction costs. Thus, this theory suggests a negative relationship between profitability and leverage (Sheikh & Wang, 2010). Therefore, the successful companies normally used their retained earnings to finance their business instead of search for external financing (Chen, 2011). Furthermore, firms prefer to use their retained earnings for any business activity rather than used debt due to avoid potential dilution of ownership and control of investor in the firm (Danso & Adomako, 2014). This means that firms only employ external debt when exhausted in their internal earnings used for business activities and firm managers will rely on debt capital before relying on equity capital (Danso & Adomako, 2014).

However, Trade-off and Agency theories have opposite direction. Trade-Off Theory assumed high profitability will promotes the use of debt based financing as it provides tax shield incentive on interest payment (Schoubben & Hulle, 2004). Moreover, profitable firms are use more debt due to less probable to go bankrupt (Schoubben & Hulle, 2004; and Barros & da Silveira, 2007).

Empirical evidence concerning the relationship between firm profitability and leverage is unclear. Previous studies Chen (2004); Sheikh & Wang (2010); Chen, Jung, & Chen (2011); Affandi et al. (2012); Hassan et al. (2012); and Danso & Adomako (2014) appears to be consistent with the Pecking Order Theory . The negative relationship also represents the same prediction in Signaling Theory. However, Affandi et al. (2012) indicates profitability do not contribute to any significant role in determining the debt-equity choice of property companies. Besides, Akinyomi & Olagunju (2013) find insignificant positive relationship with leverage.

3.2 Relationship between Tangibility and Capital Structure

Tangibility plays an important role on capital structure (Kayo & Kimura, 2011). This is because, company with high tangibility have probability to pledge more assets as collateral for debt financing. Trade-Off Theory predicts a positive relationship between tangibility and leverage because in the perspective of creditors the availability of tangible assets will reduce the risk as it serves as collateral for debt financing. Furthermore, greater collateral may reduce the agency cost of debt and have a higher liquidation value, which will reduces the bankruptcy cost. However, Pecking Order Theory suggests opposite relationship between tangibility and leverage because firms holding more tangible assets will face less asymmetric information problems and hence less likely to issue debt (Schoubben & Hulle, 2004). But, Myers & Majluf (1984) predict that managers may reduce the cost of debt by issuing secured debt. Thus they assume firms with high assets that can be collateralized will employ more leverage (Schoubben & Hulle, 2004; Barros & da Silveira, 2007). Affandi et al. (2012) confirm that asset structure is an important determinant of the capital structure of property companies. The property asset intensity (TANG), for example, shows significant positive relationship with debt ratio. This result supported by (Akinyomi & Olagunju 2013; and Danso & Adomako 2014) which also indicate positive relationship with leverage. The more tangible the firm's assets, the greater its ability to issue secured debt. This is due to a firm with large amount of fixed asset can borrow at relatively lower rate of interest by providing the security of these assets to creditors. Hassan et al., (2012) also find significant and positive relationship with debt ratio of Shariah compliant companies. In the perspective of Islamic companies, the result from (Hassan et al., 2012) are consistent with Islamic principles whereby debt must be asset backed in the contract for example *Ijarah* and *Murabahah*.

On the other perspective, high asset will create less agency problem because there are may be less room for abuse by management (Schoubben & Hulle 2004). For that reason, Agency theory expected negative relationship between tangibility and leverage. This consistent with Sheikh & Wang (2010) which indicates negative relationship between tangibility and leverage. From the above discussion, it shows that most of the past studies are consistent with Trade-Off Theory and Pecking Order Theory.

3.3 Relationship between Size and Capital Structure

According to Trade-Off Theory, larger companies should borrow more because these companies are more diversified and less possibility to bankrupt while smaller companies should operate with low leverage because these companies have probability to be liquidated when facing financial distress. Moreover, larger companies have lower agency costs of debt due to low monitoring costs because of less volatile cash flows and easy access to capital market. Therefore, this theory predicts a positive relationship between size and leverage.

At the same time, Pecking Order Theory suggests a negative relationship between firm size and leverage by reason of information asymmetry problem is less severe in large firms (Sheikh & Wang, 2010). Moreover, issuing equity is relatively costly for small firms as compared to large firms. Therefore, rationally small firms may favor to borrow short term bank loan instead of acquired long term debt.

Affandi et al. (2012) and Sheikh & Wang (2010) reports the significant positive relationship between size and leverage. This consistent with the Trade-Off model of capital structure where large firms seem to employ more debt than smaller one. Furthermore, their study suggested property asset intensity (TANG) and firm size (SIZE) have more impacts on dependent variable of debt ratio (DR).

However, Akinyomi & Olagunju (2013) indicates insignificant positive relationship with leverage. This variable has been widely used in many other capital structure studies (Titman & Wessels, 1988; Barclay & Smith, 1995; Rajan & Zingales, 1995; Harris & Raviv, 1991; Al-Sakran, 2001; Fan et al., 2012; and Gunn & Shackman, 2014).

3.4 Relationship between Growth Opportunities and Capital Structure

Trade-Off Theory assumes growth firms tend to borrow less because of increased probability of bankruptcy cost. Even though growth opportunities will increase the value of the firm but it cannot pledge as collateral due to intangibility. The same assumption also highlight in the Agency theory which indicates growth firm should have lower leverage. The rational is, growth companies have continuously large cash flow needs. Hence, by increasing used of debt, the companies will hampered their investment decisions because the pressure of the

additional cash outflows for debt servicing. As growth may serve as a quality signal, hence the Signaling Theory would predict negative relationship between growth and leverage. On the other hand, Pecking Order Theory would predict growth firms are probably to finance using debt (Frederiek & Hulle, 2004).

Result from Sheikh & Wang (2010) indicate positive relationship between growth and leverage. This result contradict with the predictions of the Trade-Off Theory and Agency theory, however it is consistent with Pecking Order Theory. While, Huang, Tan, & Faff (2016) find that firms with higher growth opportunities tend to have more on short-term debt.

At the same time, Akinyomi & Olagunju (2013) and Babu & Chalam (2014) find insignificant positive relationship with leverage. While Jahanzeb & Bajuri (2014) find insignificant negative relationship with the leverage.

3.5 Relationship between Risk and Capital Structure

Trade-Off Theory expects positive relationship between cost of financial distress and risk, and the probability that the tax shield will be fully used decrease. According to Pecking Order Theory, risk worsens the negative impact of asymmetric information and debtors are likely to protect themselves by strengthening conditions in debt contracts (Frederiek & Hulle, 2004). Firms which have high inconsistency in earnings will have a greater risk of not being able to meet their debt obligation. In other word, inconsistency in earnings will reduce the used leverage in a firm (Danso & Adomako, 2014). At the same time, Agency theory predict positive relationship between risk and leverage (Danso & Adomako, 2014). Therefore, in general, there is a presumption of inverse relation between capital structure and volatility (Jahanzeb & Bajuri, 2014).

Danso & Adomako (2014) indicate earning volatility has a negative and a statistically significant relationship on leverage. From the above discussion, it proved that risk has a significant effect on capital structure.

3.6 Relationship between Non Debt Tax Shield and Capital Structure

Trade-Off Theory is a prominence theory discuss on the debt as tax shields and it assume non debt tax shield negatively correlated with leverage (Awan & Amin, 2014). From a tax shield point of view, companies with large non debt tax shields may use less debt due to lower incentive to use debt (Hassan et al., 2012).

Haron & Ibrahim (2012); Khan et al., (2014) and Awan & Amin (2014) defined non-debt tax shield as annual depreciation expenses to total asset. While Babu & Chalam (2014), measure non-debt tax shield as earnings before interest, taxes and dividend divided by book value of assets and Thabet & Hanefah (2014) defined ratio of tax expense to earnings before taxes.

According to Khan et al. (2014), many empirical studies have a negative impact on debt ratio. For example Babu & Chalam (2014) find insignificant negative relationship between non-debt tax shield and leverage with coefficient value as -0.141. While other researcher indicates that non-debt tax shield was significantly positive correlated with financial leverage at less than 1% level of significant (Awan & Amin, 2014).

3.7 Relationship between Liquidity and Capital Structure

Trade-Off Theory believes that the higher liquid companies have more ability to meet debt obligation, thus they will borrow more debt (Thabet & Hanefah, 2014). Whereas, according to Thabet & Hanefah (2014), Pecking-order theory has different view on the effect of liquidity towards capital structure. It assumed that companies with high liquidity will have low debt financing. This is because, as a company decision driven by financing cost, manager are more likely to used internal funds to finance their projects. Agency theory also assumed negative relationship between liquidity and leverage (Thabet & Hanefah, 2014).

Result from (Thabet & Hanefah, 2014) shows that the liquidity is negatively associated with leverage whereas Jahanzeb & Bajuri (2014); Awan & Amin (2014).and Babu & Chalam (2014) suggests a positive relation between liquidity and capital structure. This study predicts negative relationship between liquidity and capital structure. This is because, it is suggested that company can utilized the liquid assets for the financing their projects.

Babu & Chalam (2014) and Thabet & Hanefah (2014) defined liquidity as current assets divided by current liabilities. While (Awan & Amin, 2014) defined as Net working capital /Total Assets.

4. Conclusion

Several empirical studies have examined the determinants of capital structure from the traditional capital structure theories. These theories suggest that firm's characteristics will influence the decision in firm's capital structure. However, the past literatures has indicates mixed findings and researcher still cannot identify the theory best explains the capital structure choice (Sheikh and Wang, 2010). Therefore, it is suggest for the future research to adding others potential variables that might influence the firm's capital structure.

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