

CHAPTER 2

LITERATURE REVIEW

CONCEPTUAL AND THEORETICAL BACKGROUND

Franco Modigliani and Merton H. Miller (1958) points out that within a perfect and an efficient market, the capital structure disregards all the enterprise value factors. This is because of the idea that enterprise value factors usually rest upon various uncertainties and the firm's investment policies. Both Modigliani and Miller's further studies proposed two conclusions on the idea of capital structure: income tax structure and non-income tax structure.

Based on Modigliani and Miller's theory, many economists accounted other relevant factors into their studies, attempting to explain the firm's capital structure more accurately. Their studied factors sort out into two categories based on the differences in characteristic. The two categories are the firm's internal factors and the firm's external factors. The firm's internal factors include the firm's size, tax, financial distress, collateral value, firm's asset structure, asymmetric information, agency conflict, and ownership structure. Whereas, the firms' external factors comprise of the macroeconomic condition, market value of equity, and the stock market return.

Following the economist footsteps, this study derives its literature review from the characteristics of the factors. However, some parts of the literature review have to cover both internal and external factors because of the overlapping concept and, hence, both terms will appear.

2.1 LITERATURE RELATES TO CAPITAL STRUCTURE CONCERNING INTERNAL FACTORS

2.1.1) tax

2.1.2) agency conflict

2.1.3) financial distresses or bankruptcy cost

2.1.4) product uniqueness

2.1.5) size

2.1.6) firm's asset structure and collateral value

2.1.7) asymmetric information

2.1.8) ownership structure

2.1.1 Tax

The Trade Off Theory states that firms would usually choose their debt-equity ratio by trading off their benefits through tax reduction on interest payments against their cost of financial distress. The cost of financial distress here probably emerges from debt accumulation. With this in mind, enterprises that have higher tax benefit from tax-deductible expenses, including research and development cost, will be more likely to reduce their liability. This implicitly mean that these firms should lower their target debt to their total asset ratio to reduce tax. A larger expense on research and development usually deducts firm's operating profit. Typically, tax burden will reduce if the firm decides to deduct these expenses. In addition, enterprises that have higher expense burden on researches and developments will not necessarily need to have higher level of liabilities in order to gain better benefits from tax shield. Hence, the firms that have higher research and development cost would have, on average, a lower degree of debt accumulation than other firms would.

Furthermore, Graham, Lemmon, and Schallheim (1998) provides many pieces of evidence to be consistent with the theory regarding the relationship between debt policy, leasing policy, and taxes. They state that the measurement of the firms' marginal tax rate before financing decision reveal that the corporate marginal tax rate as being positively relates to their debt usage. On the other hand, this meant that the firms' marginal are negatively relates to the use of operating lease. This particular evident supports the hypothesis that claim that lower tax rate firms have the tendency to lease more, and they have the tendency to have lower debt levels than higher tax rate firms. To support this, series of influential papers only by Graham published on the tax aspect of the capital structure. It confirms that a large, a liquid, and a profitable firm with lower expected distress costs would use their debts more conservatively. He also identifies that larger firms generally fail at taking advantage on tax shelter provided by their debt. These advantages of lower distress firms include the area of product's market factors, growth options, low asset collateral, and plans for the future expenditures, which may have led to a more conservative debt usage.

Modigliani and Miller (1963) and Miller and Scholes (1978) suggest that firm debt accumulation connects with higher tax charge on dividend. Accumulating more debts speculates here as being part of the reduction on the amount of dividend. They further propose the idea that when tax on interest payment ascends, firms would be more likely to lower their debt proportion due to less tax reduction on interest payment. As a result, the changes of tax imposition will eventually affect the firm's capital structure.

2.1.2 Agency problem

Too much equity can lead to free cash flow problems and conflicts of interest may emerge between managers and shareholders (Jensen (1986)). Vice versa, too much debt can lead to asset substitution and conflicts of interest may emerge between managers and bondholders (Jensen and Meckling (1976)). Initially, Jensen and Meckling (1976) identifies two types of conflict:

- The conflict between equity holder and manager
- The conflict between equity holder and debtor

The first conflict is between equity holder and manager, arising from managers holding less than 100% of residual claim. Not holding a lot of residual claim will make managers feel unease and a sense that they have not captured the entire gain from their profit activities will arise. These managers are the people who are responsible if the activities fail. They are also responsible for bearing the entire cost of refraining from transferring these firm's resources to their own pocket. Consequentially, all they felt that they have gotten out of years of hard work are only the ability to capture a fraction of the gain, which is usually insufficient. This feeling could subside by increasing the firm's equity fraction held by managers. If the manager's share of equity fraction financed by debt increases, the conflicts between the manager and shareholder will expect to reduce, and the will to maximize the firm's value will thus increase.

Another point defined by Jensen (1986) refers to the hardship managers that encounter during debt financing. It states that debts committed by the firm reduce the amount of future cash managers will be able to use for profit enhancing activities. Because the equity holder normally uses debts as tools to control the managers and the administrative system around him/her, Jensen believes that both the managers and the equity holders need to agree on the employment of debt financing before using it.

Hongpan (2000)'s finding shows, nevertheless, that in Thailand the agency cost of conflict and internal fund are vital variables of capital structure choice and using debt to control over administrative system is unnecessary because of the major shareholder group owning powerful authority in manipulating administrative system.

The second conflict mention is between the equity holders versus the debtor. The conflict occurs because of the concept of debt contract given to the equity holders as an incentive to invest sub optimally. If an investment yields larger returns well above the face value of the debt, equity holders tend to capture most of the gain. If, however, the investment fails, debt holders are to bear the consequences unconditionally. Thereby, the equity holders prefer very risky projects even if it means that the projects are value decreasing. In this respect, the effect is an "asset substitution effect". It is the agency cost of debt financing in compensation for the defaulting chances. Thus, obtaining a favorable term to lower firm's borrowing costs; firms need to possess large numbers of valuable collaterals.

2.1.3 Financial distresses or bankruptcy cost

Raising debt typically leads to financial distress on the firm's behalf. This increases the chances for the firm to fail in reimbursing their liabilities. For example, the unstable revenue firms detain a higher degree of financial distress during times of acquiring new debts. Bankruptcy cost grows insurmountable for unstable revenue firms. Because these firms are less advantageous to acquire new debt, the value of the common stock holders gradually declines. If the situation persists for an extended period, the firm may go bankrupt. Bankruptcy cost becomes inevitable factor. Hence, the firm's capital structure determines the amount of debt the firm uses. Here, Titman and Wessels (1988) proves the connection between the firms' liquidation decision to their bankruptcy status and their income volatility versus the bankruptcy cost.

Barclay, Smith, and Watts (1995) with Rajan and Zingales (1995) attach the market to book ratio in connection with other elements of the Trade Off Theory to the cost of financial distress. The costs of financial distress are simply different for different types of firm. The firms with substantial growth and investment opportunities possibly have financial distress when overhang debts prohibit these firms to acquire new capital and commence ineffective negotiation. Especially, the firm with unstable revenue is likely to incur more financial distress when raising more debt. Therefore, if there is high bankruptcy cost, the firms become less advantageous and acquire less gain.

Rajan and Zingales (1995) investigates the determinant of the capital structure choices through conducting financing decision analysis on the public firm in major industrialized countries. These countries include Japan, Germany, the United States, the United Kingdom, and Canada. The main objective is to establish whether capital structure in other countries is related to factors similar to those appearing to influence the capital structure of U.S. firms. Their study discovers the determinant as the firm's leverage being similar across the G-7 countries at an aggregate level. Factors in previous studies correlate with the cross section of the firm's leverage in the United States and correlate similarly within other countries as well. There is a positive correlation between leverage and tangible assets. Meanwhile, there is a negative correlation between leverage, firm's size, log of sales, and profitability. Particularly, there is also a strong negative correlation between the market-to-book ratios to the leverage.

Neanchaleay (2000) employs the different Thai firm's capital structure determinants to explain capital structure. The data incur 282 firms during the period of 1995 to 1999, not including the Banking and Finance and Insurance sector. The study also utilizes the Linear Structural Relation or Linear Structure Equation Model call "LISREL." The study shows that tax burden, inefficient investment, firm's size, and profitability do not exhibit a pattern. The study result does not significantly explain the determinants of capital structure. Simultaneously, the only explainable factor in the financial structure is financial distress. Therefore, he suggests that capital market development could have resolved Thai's capital structure with excessive debt burden.

2.1.4 Product uniqueness

To obtain customer loyalty, performing firms offer unique products. Simultaneously, creditability and services of the firms highly influence a customer's purchasing decision. In order to maintain creditability and services, the firms have to maintain their high product uniqueness, better after-sale services, and relatively lower debt ratio. Financial problems usually happen during high debt ratio. This brings down the company's image, creditability, and the company's overall performance. When this happens, liquidity becomes an option. Titman and Wessels (1988) indicates higher liquidity cost when liquidation on unique product firm's asset becomes an option. They believe that the customers, workers, and suppliers of unique product firm suffer relatively higher liquidity cost because the possession of job specific skills. Unfortunately, the job

specific skills are not as marketable as other skills. Therefore, leaving unique product firm's jobs are costly. Especially, during the firm's liquidation, unique product firm's jobs cost even more.

Unique product requires research, development, and other selling expenses. One portion of the firm's capital comprises of research expenses, development expenses, and other selling expenses; but none of these expenses can turn into collateral.

In conclusion, the debts levels negatively relate to the unique product firm's R&D, sales, high selling expense, and low overturn rates. Low debt ratio from large negative coefficient estimates indicates relatively larger research and development expenditures, higher selling expenses, and relatively lower overturns rates. Thus, debt ratios relate negatively to the unique product firm's attributes. And, there is a positive correlation with non-debt tax shield and a negative correlation with collateral value.

2.1.5 Firm's size

Firm's size affects the firm's capital structure. The assumption is larger firm possess higher capabilities to diversify their business risk and lower the degree of revenue volatility. Creditors expect higher capability in paying back debts from larger firms. Fama and Jensen (1983) stated that more information is provided by larger firms due to cost and advantages on information; larger firms have higher capability to loans.

2.1.6 Firm's asset structure and collateral value

A firm's asset structure correlates directly and closely to the firm's capital ratio. According to the Trade Off Theory, the balance between the cost of capital and the tax benefit occurs from debt accumulation. It further states that the firm's asset structures relates to setting the firm's optimal capital structure. The theory believes that the firm with high proportion of tangible asset and earning before tax possess high target debt than total asset ratio. To acquire high target debt, collateral uses the firm's tax benefit and the firm's tangible asset. If the firm has enough tangible assets, asset substitution does not become a problem.

Creditors will lend out more when the degree on the debtor cost of borrowing reduces or is low. Therefore, the firm with high collateral is likely to have high debt ratio.

Under the tax model and the agency model, level of debts positive correlates with a firm's liquidation value. Besides, lower target debt ratio signifies a firm with low operating revenue, large amount of intangible assets, and accompanied with high business risks in the

models. Perhaps, because lenders require harsher lending terms, debt financing becomes costly than equity financing.

2.1.7 Asymmetric information

Myers and Majluf (1984) explains that investors are not being well informed on information regarding value of the firm's assets as the firm's insiders. The effect is that firm's equity tends to be priced incorrectly by the market. Misprice means incorrect pricing. Whereas, underpricing means that firm's equity prices exist below the relative value of the firm. Underpricing becomes a huge problem when firms issue equity to finance new projects. Underpricing may be so severe that new investors capture more than NPV of the new project, resulting in net loss to existing shareholders. As such, the investors will reject new projects even with positive NPV.

The Pecking Order Theory of corporate financing states that those firms confronting problem concerning equity issuing uses securities as an alternative. These securities, which are not undervalued by the market, include either internal funds and/or less risk debt. Myers (1984) stated that the firm's intention to finance new investments drives the capital. With the firm's intention to finance new investments, new sources of capital will be acquired respectively from the internals of the firm, through using low risk debt, and through using equity.

To reassure the theory above, traditional capital structure model is tested against the alternative of the Pecking Order Model of corporate financing. The basic Pecking Order Model predicts that the internal financial deficit drives the external debt financing, and has a much greater time series explanatory power than the Static Tradeoff Model. The Static Tradeoff Model predicts that each firm gradually adjusts toward an optimal debt ratio. The results finally suggest greater confidence in the Pecking Order Model.

In Thailand, several tests employ the Pecking Order Theory. Three literature reviews discuss the validity of the Pecking Order Theory within a different culture and under different circumstances.

First, Kamonpornphan (1997) tests out the various factors that play a major role in determining Thai firms' capital structure, and the firm's financial executive's willingness to adjust the firms' debt ratio to go with the industry's debt ratio. The results measure the degree of active leverage management through computing the changes in the expected leverage versus the real leverage after fund raising. The data use the periods from 1994 to 1996, totalling 317 firms.

The results show that there is a negative relationship between the leverage and the market to book leverage, with a positive relationship between the leverage and the proportion of increasing capital. The proportion of increasing capital comprises of the gaps between the industry, firm's leverage, and firm's sales. The outcome reveals that, on average, the firm tries to maintain the level of firm's leverage close to the average of industry's leverage. This proves validity in the Pecking Order Theory.

Second, Leardsaktanakul (2001) tests the Pecking Order Theory of capital structure on Thai firms, using model of Shyam-Sunder and Myers. Shyam-Sunder and Myers (1999) model proves that the economic crisis in 1997 was stemmed from the mismanagement of capital structure. The result of study shows that Thai firms' criteria for acquiring capital deviate from the criteria in the Pecking Order Theory and that Thai firms' capital relied heavily on debt despite the enormous amount of liability. Therefore, the Pecking Order Theory proves to be valid.

Finally, Buransakda (2002) tests the Pecking Order Theory of capital structure following the model of Shyam-Sunder and Myers (1999) and Goyal and Frank (2002) to examine Thai firm's history in raising capital. The data are obtained from 275 firms listed on the Stock Exchange of Thailand during the periods from 1992 to 2001. Survey questionnaire is used to improve the accuracy and to pursue the validity of the Pecking Order Theory. The result indicates firms' primary source of funds as being attained by the use of internal funds from the company's retained earning and debts instead of using equity when external financing is required. Again, the Pecking Order Theory becomes valid and applicable.

2.1.8 Ownership structure

Hongpan (2000) investigates the determinants of capital structure of non-financial firms listed on the Stock Exchange of Thailand in 1999. She mainly focuses on the determinant of capital structure on the impact of characteristic of major shareholder by including other variables as previously mentioned. The finding reflects the agency cost of conflict and the internal fund as being the vital variables of capital structure choices excepting tax. Other discoveries include the ownership structure and the cluster of shareholders, affecting the capital structure due to major shareholder group owning powerful authority in manipulating administrative system. Thereby, using debt to control the administrative system becomes unnecessary. Consequently, the level of debt usage, especially the tendency for the family-run business using debt rather than equity from stockholder, negatively correlates with the clusters of shareholder.

2.2 LITERATURE RELATES TO CAPITAL STRUCTURE CONCERNING EXTERNAL FACTORS

2.2.1) macroeconomic factor

2.2.2) market value of equity

2.2.3) stock market return

2.2.1 Macroeconomic factor

In general, financial constrain firms likely set their target capital structure along with the economic condition or called “pro-cyclical.” Conceivably, increase in firm’s asset value can be used as collateral during economic upturn. It enables a firm to attain the potential to acquire more debt. In that way, in periods of economic expansion, financial constrained firms will seem to have a higher target capital structure.

Conversely, the study of Levy (2001), finds that financially unconstrained firms tend to set their predetermined capital structure to oppose economic condition. He reasons that during economic recession, firm’s manager wealth reduces below shareholders because they are in debt. The firm’s manager will possess higher tendency to mitigate the firm’s profit/benefit into his own personal gain. Under this circumstance, increasing target debt level is a tool to measure the firm manager’s administration.

Kalpagonchai (2002) focuses the study on the role of macroeconomic conditions. The macroeconomic conditions include Manufacturing Production Index, Private Consumption Index, Private Investment Index, Capacity Utilization Index, and firm-specific variables on the establishment of the target capital structure of the firms. He also studies the firm’s behavior in selecting the different issue security types. The sample group comprises the non-financial firms listed on the Stock Exchange of Thailand during the periods from 1995 to 2000. The results of the study manifest macro economic conditions significantly affecting the firm’s capital structure decision. The target leverage is pro-cyclical for the relatively constrained firms but counter-cyclical for the relatively unconstrained firms. The issuing choices for the constrained firms relate to deviation from the target capital structure and the firm specific variables. The conclusion incorporates the idea that financial official tends to issue new securities with the aim of adjusting the capital structure to converge to its optimal level. This outcome is also different to the result of

the study tested in developed market. It may be because of varying degree of transaction and adjustment costs.

2.2.2 The factor relating to market value of equity

Baker and Wurgler (2002) is first to study market timing theory on capital structure. Their investigation on the influence of past market returns shows that firms issue equity when their market values are high, relative to book and past market values, and repurchase equity when their market values are low. This means that current capital structure is strongly related to historical market value and is therefore the cumulative outcome of past attempts to time the equity market. Their results are consistent with the hypothesis that market timing highly affects the capital structure. Moreover, the low leverage firms raise funds when their market valuation are high, while high leverage firms raise funds when their market valuations are low. The fluctuation in market valuations, persisting for at least a decade, also highly affects the capital structure. Hence, the most realistic explanation for the outcome is that capital structure comes from cumulative outcome of past attempts to time the equity market. With this theory, there is no optimal capital structure, and market timing financing decision accumulates overtime into the capital structure outcome.

Looking at another study, Thuwajaroenpanich (2002) tests the Market Timing Theory versus the capital structure by adopting the Baker and Wurgler (2002) model. The study also investigates the relationship between stock returns versus announcements equity issue. The data obtain from 142 companies listed on the Stock Exchange of Thailand with an IPO date between the period 1992 and 1996. The result is controversial. The result from the study on Thai firms investigated by Thuwajaroenpanich reveals that Thai firms do not use equity market timing for financing. Here, there is no relation between market timing and changes in capital structure. The study illustrates that the current capital structure is not related to the cumulative outcomes of past attempts to time the equity market.

The study in the second section reflects a relationship between increasing stock return and announcements equity issues. Several papers such as Rajan and Zingales (1995), Barclay and Smith (1995), Hongpan (2000,) Havakimian, Opler, and Titman (2001), Kalpagonchai (2002), and Buransakda (2002) adopt variables to reflect the market value of equity or firm's stock return.

2.2.3 The factor relating to stock market return

Welch (2002)'s study reveals that the stock market return is a prominently primary factor in determining capital structure of U.S. firms and that managers fail to readjust capital structure in response to stock value change. The studies suggest that the attempt to minimize bankruptcy costs, or maximize firm-value does not cause the typical firm's capital structure. Instead, the stock market influences entire capital structure determinants. In short, external stock market influences capital structure, and not internal corporate optimizing decision.

Welch (2002) study coheres with the Graham and Harvey (2001) studied survey. Graham and Harvey (2001) studied survey acquires 392 financial managers and Chief Financial Officials of U.S. firms in the year 1999. Both of the financial managers and Chief Financial Officials of U.S. firms are to be referred to as executives under Graham and Harvey (2001). The theory determines the degree of care these financial managers exert on theories regarding optimal capital structure. Executives claim to issue equity to maintain the target debt-equity ratio, especially during the time when their firms have high leverage. The studied survey also aims to prove these executives' claim. The survey queries executives on the importance they place on rebalancing toward capital structure during the firm's equity value change. Executives, generally, do not find it important.

The last study investigates the factor relating to stock market return. Kalpagonchai (2002) adopts stock market return as the only variable reflecting macroeconomic condition in determining the firm's investment choice.