CHAPTER TWO

LITERATURE REVIEW

2.1 Types of Studies

Research on the theory of financial structure has generally centered around three main areas. They are;

a) The effect of capital structure on the firm's cost of capital and its value.

b) The debate as to whether there exists an optimum capital structure.

c) The determinants of capital structure.

First, the effect of capital structure on the firm's cost of capital has been researched by Alexander Barges (1962). The objective of the study is to test the hypothesis that the firm's cost of capital is unaffected by its capital structure as put forward by Professors Franco Modigliani and Merton H. Miller (M & M). Alternatively, M & M state that the market value of the firm is unaffected by the composition of securities in its capital structure. The result of Alexander's finding shows that on the contrary, capital structure has an impact on the firm's cost of capital. To quote Barges, "**the hypothesis of independence between average cost and capital structure appears untenable.**"

According to DeAngelo and Masulis, R.W. (1980), in a world with taxation and transaction costs, there ought to be an optimum capital structure. Their argument is that since interest payment is tax deductible, firm can increase their after-tax cash flows by taking on more debts. However, the increase use of debt creates financial leverage and financial risk in addition to business risk. The firm will be forced into liquidation if it is unable to generate enough cash flows to repay both providers of debt and equity capital. Therefore, there is a trade-off between the benefits of using debt and the potential liquidation costs. In between this, there ought to be an unique optimum level of debt for each firm arising from the interaction of personal and corporate tax treatment of debt and equity. There are also others that hold opposing views. One such person is Myers (1984) who maintains that we still do not fully understand corporate financing behaviour.

In the third area of research, researchers try to determine factors that may influence a firm's choice of financial structure. This area of interest has been researched by Titman and Wessels (1988) as well as M. Ferri and W. Jones (1979).

2.2 Titman and Wessels Findings

In the first study by Sheridan Titman and Roberto Wessels (1988), they try to explain the variation in gearing ratio

across firms by using a technique which is known as linear structural modeling to measure unobserved or latent variables. Their results suggest that firms with unique or specialised products have relatively low debt ratios. Uniqueness is measured by the firm's expenditures on research and development, selling expenses and employees turnover rate. Employees turnover rate will be much lower the more unique is the firm's product. This is because it is very difficult for staff with specialised skills to look for alternative employment.

They also find that smaller firms tend to use significantly more short-term debts than larger firms. Their model finds no evidence of a relationship between gearing ratio and a firm's expected growth rate, non-debt tax shields, volatility of earnings and collateral value of its assets.

2.3 Results of Other Studies

Other studies have identified several attributes that **may** affect a firm's debt-equity choice. These attributes are asset structure, non-debt tax shields, growth, uniqueness, volatility, profitability, operating leverage, types of industry and size.

2.3.1 Collateral Value of Asset

Scott (1977) suggests that firms find it advantages to sell secured debt as they can increase the value of equity by expropriating wealth from their existing unsecured

creditors. By issuing secured debt, firms can increase the value of its equities by reducing the amount available to pay legal damages in the event that the firms should go bankrupt. So, firms with assets that can be used as collateral may be expected to issue more debt to take advantage of this opportunity.

Galai and Masulis (1976), Jensen and Meckling (1976), and Myers (1977) suggest that shareholders of geared firms have an incentive to invest suboptimally to expropriate wealth from its bondholders. If projects cannot be collateralised, then creditors want more favorable terms, which in turn may lead firms to use equity rather than debt financing. Thus, there is a positive relationship between gearing ratio and the capacity of the firm to collateralise their debt.

On the other hand, the tendency for managers to consume more than the optimum level of perquisites may produce a negative relationship between gearing ratio and collateralised assets. Grossman and Hart (1982) propose that higher debt level reduces this tendency because of the increased probability of bankruptcy. Managers of highly geared firms will be less able to consume excessive perquisites as their actions are closely monitored by bondholders. The agency costs is higher for firms with less collateralised assets, so firms with less collateralisable assets may choose higher debt level to

limit their managers' consumption of perquisites.

2.3.2 Non-debt Tax Shields

DeAngelo and Masulis (1980) maintain that tax deductions for depreciation and investment tax credits are substitutes for the tax benefits of debt financing. Therefore, firms with large non-debt tax shields relative to their expected cash flows will include less debt in their capital structure.

On the other hand, Long and Malitz (1985) fail to find any significant, independent effect of tax status on debt ratios. Similarly, in the words of Stewart C. Myers (1984), "I know of no study clearly demonstrating that a firm's tax status has predictable, material effects on its debt policy."

There is also considerable debate over the size of the tax benefits that accrue to firms as a result of the use of debt financing with Miller (1977) arguing that it is zero.

2.3.3 Growth

Expected future growth should be negatively related to gearing. This is because agency costs is likely to be higher for firms in growing industries and thus limits the choice of investments. Agency costs is the costs incurred in order to monitor the compliance of management with loan contractual agreement. Hence, the use of less debt for

firms with higher growth potential. However, Titman and Wessels (1988) results do not provide support for an effect on debt ratios arising from future growth.

However, Jensen and Meckling (1976), Smith and Warner (1979) argued that agency costs will be reduced if firms issue convertible debt. This suggests that convertible debt ratios may be positively related to growth opportunities.

2.3.4 Uniqueness

According to Titman and Wessels (1988), the bankruptcy costs have an effect on the amount of debt. In his model, workers, suppliers and customers will suffer more in the event of liquidation if the firm produces a highly specialised product. The workers and suppliers probably have job specific skills and capital, and customers may find it difficult to locate alternative servicing. So uniqueness is expected to be negatively related to debt ratios.

2.3.5 Volatility

Many researchers such as Bradley, Jarrell and Kim (1984) have claimed that debt is a decreasing function of the firm's volatility of earnings. This is expected as the greater the variability of earnings the higher will be the probability of incurring financial distress costs. Ferri and Jones (1979) use of a multivariate test of the

discriminant functions involving these two variables were found to be significant. "The test suggests a linkage between income volatility and leverage class."

However, a research done by Annuar and Shamsher (1993) on the financing behavior of Malaysian firms only managed to detect a causal relationship between earnings volatility and debt/equity ratio.

Ariff, M.,Lim, S.L. and Johnson, L.W., (1989) on the other hand, did not find any significant relationship among these two variables for Singaporean firms.

2.3.6 Profitability

Donalson (1961), maintains that firms adopt a pecking order when raising funds. Firms prefer internal financing to external financing. Internal financing comes from retained earnings. If funds need to be raised from external sources, then firms will issue debt instrument followed by new equity. Hence, the amount of profits and subsequently retained earnings will also affect the amount of debt used by firms. The higher the profits, the higher the retained earnings and the lesser the amount of debts.

2.3.7 Operating Leverage

Ferri and Jones (1979) found that there exists a negative relationship between a firm's use of debt and operating leverage. In other words, high risk companies tended to

have lower debt ratios as they avoid long-term debts. But Toy (1974) et al. found the reverse; that is, companies with high operating risk tend to have higher debt. In another study conducted by Long and Malitz (1985), they also found a significant positive relationship between tangible assets and the level of borrowing.

2.3.8 Industry Classification

In the study by Ferri and Jones (1979), they found "a slight statistical relationship between relative debt structure class and generic industry class". The explanation is that firms in the same industry class should experience similar amounts of business risk because these firms produce similar products, face similar costs for materials and skilled labour and rely on similar technology.

In Malaysia, the relationship between the financial structure of firms listed on the Kuala Lumpur Stock Exchange and the classification of industry as well as the size has been researched by Ang Seng Jin (1994). Ang found a significant variation of debt usage among different industry groupings. Financial institutions have the highest gearing ratio while the rubber industry has the lowest. There is also a positive correlation among firm's size and debt.

Annuar and Shamsher (1993) also found that different industry sectors have different debt to equity ratios. The industrial and finance sectors have an average gearing ratios greater than one (1.04 and 16.29 respectively) for the 15 year period while the plantation sector has the lowest average ratio of 0.39. The study shows that there is a significant difference in the gearing ratios of firms within and between each sector.

Ariff, M., Lim, S.L. and Johnson, L.W., (1989) study on the capital structure of Singaporean firms found differences in capital structure between firms in different industries. These differences are maintained over the period of studies.

2.3.9 Size

Large firms have better access to the capital market, receive better credit rating for their debt issues and hence pay lower interest rates. They are also more diversified and enjoy economies of scale when raising funds. Toy (1974), Ferri and Jones (1979) show that, " a firm's use of debt is related to its size, but the relationship does not conform to the positive, linear scheme that has been indicated in other work."

2.3.10 Beta

Hamada (1972) suggests that the higher the leverage of a firm the higher would be its systematic risk. Annuar and

Shamsher (1993) findings indicated that there is a positive but not statistically significant relationship between both leverage measures and systematic risk. In another study conducted by Ariff, M.,Lim, S.L. and Johnson, L.W., (1989) on the capital structure of Singaporean firms, they found a positive relationship between leverage and systematic risk. The regression coefficient is significant at the 0.1 level for both leverage measures. Although not strong, it is in line with financial theory that higher leverage leads to higher systematic risk.

2.4 This Study

This study on **The Determinants Of Financial Structure Of Firms In The Kuala Lumpur Stock Exchange** is an extension of what has been done by Sheridan Titman and Roberto Wessels (1988), and Michael G. Ferri and Wesley H. Jones (1979).