

MASTER IN BUSINESS ADMINISTRATION

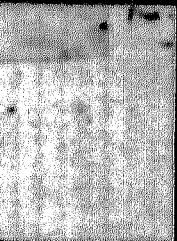
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**TITLE OF PROJECT PAPER : AN EMPIRICAL STUDY OF
THE MALAYSIAN CAPITAL STRUCTURE**

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Date: 13 February 1998



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بِوَسِيْلَتِي اِسْلَامًا اَنْبَارًا يَجْنِبًا مِلْدِيْنَا

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ABSTRACT

Despite wide literature coverage on the topic of leverage and capital structure, empirical evidence in the Malaysian context is inadequate. The capital structure in Malaysia is investigated for the period 1990-1995 based on a study of public listed companies on the main board. The main measure of capital structure employed in this study was the debt/equity (DE) ratio and it showed that capital structure is evidently different across sectors. Several key variables impinging on capital structure were tested namely profitability, earnings volatility, company size, net tangible asset backing and past dividend policy.

The segregation of the DE ratios with its corresponding variables and sorting them in an ascending order and into quartiles proved useful. With the exception of the variable for company size which is represented by both turnover and market valuation; the other variables had thrown some light on their possible relationship with leverage. Though no statistically significant relationship was seen between the DE ratio and the various variables tested, the variables themselves are seen to have statistically significant differences in their means when compared across companies with low and high DE ratios.

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CHAPTER 1

THE RESEARCH PROBLEM

Premise of Study

The firm as a business entity has to decide how to finance its long term investment needs. There are mainly two different types of long term financing i.e. internally generated funds and external sources. Internal financing is defined as net income plus depreciation less dividends and it measures the internally generated cash flow from operations that are reinvested in the firm. External financing consists of net long term borrowing, short term borrowing and common stock.

All forms of borrowing that have to be eventually repaid is recognized as debt. When corporations borrow, they generally promise to make regularly scheduled interest payments and to repay the original sum borrowed i.e. the principal at the end of a predetermined period.

The financial manager in a corporation makes decisions for the owners of the firm i.e. the shareholders. He is said to act in the best interest of the stockholders by taking actions that increase the value of the stock. However, there is a possibility of conflict of interest between the stockholders and the management of the firm and this is known as an agency problem. Agency costs, then refer to the costs of conflict of interest between stockholders and managers.

Agency problems extend to the corporation's decision to borrow money or issue equity to raise capital. This decision to determine the specific mixture of long term debt and equity of the firm is known as capital structure or financial structure strategy. To the extent that the firm borrows to finance its operation, it gives first claim to the firm's cash flow to creditors. Equity holders are only residual claimants, entitled to the residual value, the portion left after debts have been settled. The value of the residual portion is the shareholders stake in the firm and this is measured by the value of the firm's assets less its liabilities.

The main difference between debt and equity is that debt has no ownership interest in the firm as creditors generally do not have voting power. Debt is terminal in nature, all liabilities are fully discharged upon full settlement of same compared to the perpetual claim of equity holders on the firm. Interest payment on debt are generally compulsory and is considered a cost of doing business. It is fully tax deductible. On the contrary, dividends paid to equity holders are not compulsory and does not entitle the corporation for tax relief. The payment of dividends are at the discretion of the board of directors. Finally, the presence of unsettled debt is a source of liability to the firm. If left unpaid, the creditors may legally claim the assets of the firm and it can result in bankruptcy. Bankruptcy is a legal proceeding leading to the firm's liquidation or reorganization.¹

Thus, the firm would have to balance between issuing debt and equity to obtain the most benefit by obtaining the tax benefits of debt and the bankruptcy benefits of

equity. However corporations have become very adept at creating exotic, hybrid securities that have many features of equity but treated as debt to secure this advantage. Debt securities are typically long term debt called notes, debentures or bonds. The two major forms of long term debt are public issues and private placements.

The use of debt in a firm's capital structure is called financial leverage². To recapitulate, capital structure is defined as the mix of debt, equity and hybrid securities issued by a firm to finance its operations. The more debt the firm takes on, the greater is its degree of financial leverage. Debt acts as a lever to magnify both gains and losses. Therefore, financial leverage increases the potential rewards to the shareholders and it also increases the potential for financial distress³.

When discussing the firm's financial leverage, the issue of operating leverage arises. Operating leverage is the degree to which the firm is committed to expend on fixed productions costs⁴. Generally speaking, business activities or specific projects of the corporation that requires relatively high investment in plant and equipment will have a relatively high degree of operating leverage. Such industries or sectors are said to be capital intensive in nature.

Three theories attempt to explain corporate capital structure decisions: the pecking order theory, the static trade-off theory and the organizational theory. The two main theories are the pecking order and the static trade-off theories. The pecking order theory suggests that companies display a hierarchy of preferences with respect to

funding sources. This theory of capital structure is based on four tenets: (1) firms are slow to change their dividends policies, (2) firms prefer internal to external financing, (3) when using external financing, firms will use the safest form, debt, first; and (4) as firms require additional external financing, they will move down the pecking order from “safe” debt to “risky” debt to convertible debt, then as a last resort, to equity financing. This is a result of the existence of asymmetric information. Management is assumed to know more about the firm’s value than potential investors. This may cause firms to refuse to issue stock, and they may decide to fund by retention, thus giving up some valuable investment opportunities. Their borrowing is determined by supply of retained earnings. To avoid passing up favorable investment opportunities, they will maintain spare borrowing capacity; otherwise known as financial slack. This form of firm behavior led to categorization known as ‘signaling models’ which were developed by Ross (1977) and Myers and Majluf (1984).

The static trade-off theory of optimal capital structure holds that the tax deductibility of interest payments, which favors all-debt financing, should be balanced against the value of the firm lost to the agency costs of debt, which favors all-equity financing. This trade-off theory has resulted in a body of literature which can be divided into two. The first is also known as bankruptcy cost-tax shield hypothesis (Baxter, 1967; Kim, 1978) and the other is the agency costs hypothesis (Jensen and Meckling, 1976; Myers, 1977).

The organizational theory of capital structure is based on the proposition that a firm may pursue goals other than the shareholders' wealth maximization objective. This theory views management as a maximizer, not of its own wealth, which is the sum of the employees' surplus and equity; or employees' surplus only. In such a framework, a substitution of debt for equity, holding the asset side of the balance sheet fixed, benefits the remaining equity holders by increasing the firm's tax shelter and by reducing employees' surplus.

Objective of Study

This study attempts a longitudinal and cross-sectional insight of the capital structure of companies in Malaysia and factors influencing same. Thus the objective of this study is twofold. One is to determine whether public listed companies in Malaysia conform to a certain capital structure policy within and across sectors and industries.

The second objective is to determine the relationships between certain variables that impinge on the capital structure of the firm such as mean differences between various sectors, profitability, earnings volatility, size, tangible assets and dividends policy. Hypotheses are developed that are inevitably based on the body of past research centering around the two main theories of capital structure.

However, it is seen in the review of past theoretical and empirical studies in the broad realm of capital structure that none of the above theories of capital structure hold

conclusively and accepted thereon. The debate still rages on and different measures of variables are introduced in the attempt to support and argue hypotheses. The hypotheses in this study are the outcome of a literature survey that has unearthed certain variables that have been previously tested in other (more developed) countries. It would be difficult not to compare the factors influencing capital structure in other countries. Most work on capital structure is based on developed markets especially the United States and as such the comparison would be along these lines.

The study restricts itself to reproduce the regularities or irregularities found in the developed capital markets in comparison to Malaysia. It would not pretend to endeavor to go deeper and understand the forces behind them due to the cross-country and cross sectional differences between and within countries. The modest objectives of this study would, inevitably, limit itself to attempt an overview of these points and not the comprehensive analysis of unveiling the true implications behind these underlying factors. However, effort will be made throughout the paper to relate and analyze the Malaysian capital structure scenario with due reference to the economy and political ambitions of its leaders, which manifest itself in legal, regulatory and institutional structures.

Significance of Study

The area of optimal capital structure and firm value has been extensively researched for the past forty years since Modigliani and Miller's (1958) seminal work which argued that in an environment characterized by complete capital markets, the value of the firm is invariant to its capital structure. However little is known about the empirical relevance of the different theories, if any. Empirical work has unearthed some stylized facts on capital structure choice and this evidence is based on firms in the United States and the more developed capital markets.

One of the earliest work in Malaysia is by Annuar and Shamsheer (1993), which was a cross sectional study of public listed companies between 1975 and 1989. Subsequently, an attitudinal survey of CEO's regarding capital structure policies by George and Mansor (1993) attempted a comparison of attitudes of top executives in Hong Kong, Singapore and the United States based on previously reported surveys.

The former study made a broad attempt at identifying the capital structure policy without particular reference to any one specific theory. The latter, though managed to identify the resemblance of the pecking order hypothesis in Malaysia, did not relate the findings of its survey to empirical data. At that time, there were no published evidence on the capital structure issue and its various aspects using data relating to Malaysian listed firms⁵.

There has been no further study in the Malaysian context on capital structure and the relationship of certain other important variables thereto. This study will endeavor to update and review corporate capital structure in Malaysia with these in mind by continuing the work of Annuar and Shamsheer(1993) in its analysis of the subsequent period of 1990-1995.

The study of capital structure is an important area of research. Companies ideally seek a capital structure that simultaneously maximizes the value of the firm and its share price and minimizes its average cost of capital. Firms also seek to liquefy their balance sheet and develop new sources of capital. In the case of increasingly profitable firms, adding debt to the capital structure lowers the weighted average cost of capital and increases the firm value. This is because the cost of debt k_d is lower than the cost of equity k_e .

The existence of non-trivial costs of bankruptcy discourages the issuance of debt. As a result, firms in maximizing their value, trade off the tax advantage of debt against these potential bankruptcy costs. Equilibrium will be established when the expected marginal cost of bankruptcy is equal to the expected marginal benefit of debt-related tax shields.

However, as leverage is increased, so is the probability of financial distress. During periods of tight money, firms with high debt ratios may have difficulty raising funds on acceptable terms, if at all. This restrains the freedom of the management to make

decisions that are in the long-term best interests of the shareholders. The inability of equity holders and bondholders to constrain the behavior of corporate managers will cause agency costs to rise. Equilibrium will be reached when the expected marginal benefit of debt financing is equal to the expected marginal costs of debt financing.

Therefore, high levels of leverage may hinder a firm from undertaking attractive investments to remain competitive, or force it to sell assets or issue equity at highly unfavorable times. At the extreme, the firm may face bankruptcy. In a period of extreme financial distress, many management realize too late that at high levels of leverage, the present value of the expected costs of financial distress far exceeds the present value of financial leverage. These firms had reached the stage where the value of the firm decreases with increasing leverage.⁶ They have gone beyond the equilibrium position and exceeded the optimal capital structure range.

CHAPTER 2

THE CAPITAL MARKET IN MALAYSIA

Background

When Malaya achieved independence in 1957, one of the earliest moves was the setting up of the central bank, Bank Negara Malaysia (BNM) in 1960. BNM was responsible for the development of the banking and finance industry, which until then had very little regulation.

The stock market in Kuala Lumpur at that time was then another important institution within the economy. It provided an alternative structure and mechanism to the banking and savings institution for the mobilization of savings for productive investments. Alternative avenues for savings and investments were made available via the compulsory Employees Provident Fund which was set up in 1955 and the subsequent establishment of foreign life insurance companies in the country. Cooperatives were also started in the 1950s to mobilize savings for productive investments. However, the cooperatives were generally poorly managed and until today have not been able to establish themselves as a vital component of the capital market.

The rapid growth in the capital markets then had to be supplemented by the introduction of new legislation such as the Securities Industries Act in the mid 1970s and various changes in the banking and financial legislation in the late 1980s. Capital

development was given a boost in the late 1970s and 1980s early with the setting up of the various national and state savings/investment fund including the Perbadanan Nasional Berhad (PNB). Since the mid 1980s, there has been an ongoing effort to modernize and deepen capital market in Malaysia.⁷

The Malaysian Capital Market

The broad market for financial assets or obligations has been said to represent the capital market. In a narrower sense it is the market for longer term funds, distinct from the short term money market. The capital market is then the market in longer term financial assets, comprising all public and private debt instruments with maturities exceeding one year, corporate stock and shares for which there is no fixed maturity period and more recently, commodity futures.

Instruments covered include securities under stock market, Malaysian Government Securities (MGS), Government Investment Certificates (GIC), Cagamas bonds and Negotiable Certificates of Deposits (NCD). However, it excludes dealings in trade bills, Treasury Bills (T-Bill) and Banker's Acceptance (BA). For classification purposes, the capital market can be divided into the non-securities market which includes Government securities and other unquoted debt instruments issued by banks and corporations and the securities market which deals with quoted shares and debentures.

The capital market provides a mechanism in assisting the process of economic development by mobilizing medium and long term funds from a wide cross section of the population (including foreign investors) and transferring these savings into medium and long term capital to finance public development programs and fund private investment.

It allocates capital resources between competing users and overcomes the basic mismatch between the needs of the savers/investors and the requirements of the capital users. It encourages a more efficient allocation of resources from relatively less productive to more productive uses. By providing an avenue for investors to trade in existing securities, the capital market offers opportunities for the private sector to increasingly finance more and more of their investment needs through the issuance of and a combination of equity, debt, hybrids and their subsequent derivatives.⁸

To fund development projects, Government securities were issued. The amount of government borrowings have been steadily increasing in the past two decades. Total debts of the Federal Government increased by 4.7 times from RM5 billion in 1970 to RM23.4 billion in 1980. Domestic funding by the government have been mainly through the MGS and Cagamas bonds.

Traditionally, non-government corporations in Malaysia rely on three major sources of funds for the medium and long term financing. Besides internally generated funds such as retained earnings, corporations commonly turn to the financial system for short,

medium and long term financing. Public listing represents another major avenue through which large companies seek additional long term capital. The ability of the economy to absorb new issues was largely due to the high saving rate (average savings/GNP ratio was 31.7% between 1987 to 1993).

Apart from (predominantly convertible unsecured) loan stocks issued by some public listed corporations, the private debt securities (PDS) have not been made much use of as a major source of medium and long term capital. This is possibly due to it being in the infant stage and thinly traded. However, by the late 1980s, a number of changes in the economic and monetary system created an environment conducive for the development of the PDS market.

After the 1985 trough of the most severe recession in the country, the economy gradually recovered. Inventory levels were then low and capital replacement was necessary. There was a dire need for medium to long term funding in large tranches which the individual financial institutions found difficult to cater.

Since the government gradually downsized its operations thereby reducing its borrowing requirements, large institutional investors such as the EPF whose portfolio mainly consists of government securities, began to look for alternative investment opportunities in the capital market. At the same time, there was ample liquidity in the banking system and interest rates stabilized at levels lower than the preceding years.

Subsequently, when interest rates moved up, funding by means of PDS became cheaper.⁹

Coupled with the successful launching of Cagamas bonds, large corporations with good credit standing were encouraged to raise funds by issuing term notes by way of fixed interest rates. The year 1987 marked the taking off of the PDS market in Malaysia when the central bank approved two medium term promissory notes totaling RM225 million together with the issuance of medium-term Cagamas bonds for RM100 million.

At the same time, the attractiveness of bond financing vis-à-vis other sources of finance, including bank borrowing was enhanced by the setting up of a credit rating agency called Rating Agency Malaysia Berhad (RAM) in November 1990. A credit rating is fundamental for a deep bond market. A professional judgment of a corporation's creditworthiness and a favorable result i.e. a good rating thereon improves the corporation's prestige. This leads to potentially significant savings in funding costs.¹⁰

By far the most dominant instrument of the PDS market since 1990 was conventional bonds, which accounted for two thirds of the total value of PDS issued between 1990 and 1993. The maturity of these bonds were usually between three to ten years and interest payments can be either fixed or floating rates. Floating rates are often pegged to the Kuala Lumpur Inter Bank Offered Rate (KLIBOR).

Due to the increasing sophistication of the borrowers and lenders, bond derivatives are packaged depending on the creativity of the issuer and arranger. Convertible bonds listed on the KLSE are a hybrid between debt and equity. They are loan certificates which, at the holder's option, can be converted into other types of securities, notably ordinary shares of the borrowing corporation. This option is usually exercisable during a given period of time.¹¹ The PDS market now includes innovations such as floating rate bonds, note issuance facilities (NIF), revolving underwriting facilities (RUF) and redeemable and irredeemable loans stocks, as well as Islamic based securities.

The Malaysian capital market has emerged as a major source of funds since the implementation of the industrialization process. Financing from the capital market rose significantly since 1990 to account for a share of 35% of total financing during the period 1990-1996, compared with only 10% during the period 1980-1985. Although bank financing is the single most important source of funds, its share has declined progressively.

The emergence of the capital market as a prominent financial intermediary reflects the structural adjustment undertaken by the government since the mid-1980s to consolidate its financial position and to enhance the role of the private sector as the main engine of growth. Such a policy precipitated a pronounced shift in the financing distribution pattern, from the government to the private sector. This is evident in the unprecedented volume of papers issued by the private sector amidst a diminishing supply of government papers. Net funds raised by the government declined progressively from

RM22 billion or 78% of total funds raised in period 1980-1985 to RM13 billion or 10% in 1990-1996. In contrast, the private sector emerged as the single largest mobilizer of funds, mobilizing RM113 billion or 90% of total net funds raised between 1990-1996 compared to RM6 billion or 22% raised from the capital market during the period 1980-1985. The shift in the government's policy, in particular the implementation of the privatization program, provided a major impetus to the growth of securities issued by the private sector.¹²

While financing is a critical element in an economy's development process, the appropriate financial system for an individual country is dependent on a wide range of factors which includes the significance of the role of government versus the private sector, the nature and degree of diversification of activities in the economy, nature and size of the companies, the stage of development of the financial infrastructure and the legal, financial and supervisory framework. With a dynamic, ever changing financial sector, responding and evolving in tandem to the needs of the economy, there will exist significantly different financial systems among countries.¹³

The KLSE¹⁴

KLSE has grown to become the largest bourse in ASEAN. With a market capitalization of RM844.48 billion as at 31 March 1997, the KLSE is also ranked as the 4th largest stock market in Asia and 13th in the world. The growth of the KLSE is also evident in the trading volume and the number of companies listed. In 1996, the total volume traded was 66.46 billion shares valued at RM463.27 billion, an increase of 95% and 158% of 1995's volume and value respectively. The number of companies listed in 1996 increased nearly two-fold from that in 1995. As at 30 April 1997, there are 641 companies listed on KLSE's Main Board and Second Board. Trading on the KLSE has been fully computerized since 1992 when the System on Computerized Order Routing and Execution (SCORE) was first implemented. The system, which has been continually enhanced since its implementation has largely contributed to the eminent growth of the Exchange.

The Central Depository System (CDS), implemented in 1993, is the automated clearing and settlement system of the KLSE. Operated by Malaysian Central Depository Sdn Bhd, a subsidiary of KLSE, the CDS replaces the practice of holding and moving physical scrip of quoted shares with a safe and dependable computerized book entry system. By end of June 1997, KLSE has successfully prescribed all ordinary securities and non-equity securities of all listed companies into the CDS.