

**AGENCY RELATIONSHIPS AND CAPITAL STRUCTURE
OF PUBLIC LIMITED COMPANIES
THE CASES OF JAPAN AND BANGLADESH**

By

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**Department of Finance and Banking
Faculty of Business Studies
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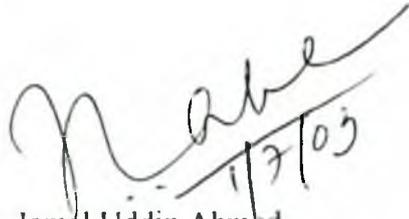
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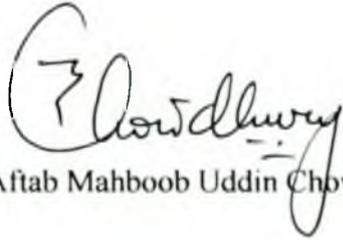
Declaration

The thesis contains no material which has been accepted for award of any other degree in any university, and it contains no material previously published or written by anyone except where due reference is made in the text of the thesis.



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AGENCY RELATIONSHIPS AND CAPITAL STRUCTURE OF PUBLIC LIMITED COMPANIES: THE CASES OF JAPAN AND BANGLADESH

(Summary)

For the management of most corporation the selection of a ratio of debt to equity in the firm's capital structure and the decision between retention of earnings or the issue of some types of securities as the means of raising additional funds are matters of high corporate policy. Despite various developments in finance theory the determination of capital structure has been a subject of theoretical debate since the publication of Modigliani-Miller's (1958) article developed within the framework of perfect capital market. Much of the history of capital structure theory during the past four decades has involved examining how robust the model is to more realistic assumptions regarding market frictions and information sets available to managers and shareholders. The development of agency theory in the 1980s, coupled with detailed research into the extent and effect of bankruptcy costs during the 1980s, led to a detailed view of the usefulness of the basic Modigliani and Miller' capital structure theory. Several authors including Jensen and Meckling (1976), Myers (1977) and Barnea et al. (1981) have focused on the role of agency costs in determining capital structures. However, the theories and empirical works seem to offer little formal analysis that would shed light on optimal decision-making. The search for a key to capital structure has developed "the capital structure puzzle". Furthermore, few empirical studies of agency theory and capital structure were done on the international sector. Thus, the study of agency theory on the international sector is of paramount importance. With this view in mind we have undertaken this study.

The following gives a brief view of the entire study. This study is divided into eight chapters. Chapter-1 gives an introduction containing a broad overview of the background of the study.

In chapter-2, the literature of different capital structure theories and the implications of cost of capital that have been used to explain capital structure decisions is reviewed. This review includes a presentation of the theoretical and empirical research on capital structure determination. The capital structure and cost of capital patterns of Japanese and Bangladesh firms has been examined and the reasons for the differences have been identified.

Over the past years, ranges of capital structure theories have appeared in finance literature. These theories regarded optimal capital structure for a firm to be determined by a broad range of factors including a mix of tax effects, bankruptcy costs, asymmetric information, and various agency problems associated with different securities including costs created by adverse selection. Theoretical developments in capital structure can be categorized broadly into two groups: i) frictionless market theories, which assume that individuals and firms can buy and sell securities without incurring transaction costs and ii) costly transaction theories. The first group consists of the original capital structure theories of Modigliani and Miller (1958, 1963), Miller (1977), and DeAngelo and Masulis (1980). The second group includes a range of theories that captures the various effects of costly capital market transactions. It includes the pure transaction costs or 'Pecking Order Theory' accredited to Donaldson (1961); the debt capacity theories that depend on bankruptcy to limit a firm's use of debt financing (Robichek and Myers, 1966; and Kim, 1978); the agency models developed by Jensen and Meckling (1976), Myers (1977), Smith and Warner (1979); and signaling model by Ross (1977).

The frictionless market theories of capital structure have been discussed. In particular, we combined the original Modigliani and Miller' (1958, 1963) paper and equilibrium model of Miller's (1977) paper that included the legal restrictions on a firm's ability to take full advantage of its tax advantage. We reviewed the various capital structure theories involving costly transactions. One of the first types of transaction costs considered in this set of theories

was that of firm failure or bankruptcy. A number of theorists have appended the notion of bankruptcy costs to the Modigliani and Miller' (1963) tax corrected valuation model, thereby limiting a firm's ability to use debt financing to enhance shareholders' wealth. Moreover, we observed that in a world of costly information, managers can take decision that may be inconsistent with shareholders' wealth maximization and, hence, introduce an agency cost explanation of the firm's capital structure choices. The seminal work of Jensen and Meckling (1976) introduced agency cost considerations and this theory continues to grow and is a prominent area in capital structure research.

Capital structure theory is closely related to the firm's cost of capital. There is controversy whether there exists some optimal composition of debt-equity mix at which the value of the firm can be maximized. Many debates over whether an optimal capital structure exists are found in financial literature. It is observed that the cost of capital is an elusive and difficult quantity to measure, and its estimation is still a matter of controversy. One of the real difficulties in dealing with the cost of capital lies in the fact that there is as yet no fully satisfactory theoretical model for predicting the impact of changes in the firm's capital structure on cost of capital. The weight of opinion is that the cost of capital is related to the relative proportion of debt and equity in the firm's overall capital structure but the cost is relatively insensitive to increase in the proportion of debt over a fairly wide range. It is necessary to determine optimal capital structure by sensitivity analysis of debt-equity ratio and adjustment of short-term and long-term funds.

The capital structure measures of Japanese and Bangladeshi firms show that these two countries have different approaches to the employment of debt and the use of net assets. There are considerable differences in the borrowing practices between the two countries. In many cases Japanese corporation's debt/equity ratio is extraordinarily high for some corporations compared to Bangladesh. One of the reasons for this phenomenon rests on the

fact that in Japan banks are able to use their positions as both lender and shareholder to induce greater corporate borrowing than would be possible for Bangladesh. Japanese firms operating in a developed capital market with unique financial system and institutional arrangements can deploy more debt. Close monitoring and constant support from financial institutions help the Japanese firms to borrow more. An insight into the profitability of Japanese and Bangladeshi firms reveal that Bangladeshi firms have more profitability at four levels of income statement: after-tax profit margin, pre-tax profit margin, operating profit margin and operating cash flow margin. However, weighted average cost of capital of Bangladeshi firms is higher than that of Japan. Japanese firms are in an advantageous position having lower cost of capital over Bangladeshi firms. The differences in the institutional environment, borrowing practices, monitoring, share interlocking, low level of bankruptcy risk and reduced cost of funds help Japanese firms to maintain high debt/equity ratio compared to Bangladeshi firms.

Chapter-3 deals with the different views of dividend policy and evaluates them from agency theory perspectives. We also discuss the dividend practices of Japanese and Bangladeshi firms. Empirical analysis has been conducted for Japanese and Bangladeshi firms based on agency model of dividend.

It is observed that modern finance theory has not yet developed a general theoretical model of share price equilibrium, assuming efficient, perfect and complete markets that accommodate the existence of dividends and optimal capital structure. The theoretical relationship between clientele, valuation, information, tax effect and agency cost effects remains unclear although a large number of literatures are available that try to explain dividend behavior but without a satisfactory understanding. Besides, there are no complete satisfactory theoretical models of dividend that drive dividend policies as part of some broad optimal contract between investors and corporate insiders, which allow for a range of

possible financing instruments. Moreover, the existing agency models do not fully deal with the issues of choice between debt and equity in addressing agency problems and the relationship between dividend and new share issues. Mixed theoretical and empirical evidences as discussed from different perspectives have exacerbated the dividend and capital structure puzzle.

The empirical analysis of the dividend behavior of Japanese and Bangladeshi firms from agency model of dividends has identified some basic differences. It is observed that dividend policy vary across legal regimes in ways consistent with the outcome agency models of dividends and depends on shareholder protection. Generally, firms in common law countries where investor protection is relatively better make higher dividend payment compared to firms in civil law countries. In addition, common law countries with high growth firms pursue lower dividend payouts compared to low growth firms. Generally, investors' protection reflects the degree of capital market development, agency relationships and corporate governance structure of a country. It is argued that Japanese firms can ignore market demand for dividend suggested by market imperfection. Japanese firms can have financial assistance from banks and financial institutions as and when required. Japanese firms are growth biased. High profit retention, low dividends and aggressive use of debt are the mechanics used by Japanese enterprises. In case of mutual shareholdings, the payment of dividends to each other is of less importance. Besides, the corporation has the enterprises group surrounding main bank supporting from the back. So, the corporation is able to raise funds and overcome higher market demand for dividend. The institutional arrangement reduces the incentive and informational asymmetry among different parties that acts as governance mechanism for reducing agency costs in respect of dividend. On the contrary, in Bangladesh, banks and financial institutions do not provide any sort of assistance to the firm they lend to. They are only concerned with the recovery of their invested money. Banks and

firms are viewed as separate entities. So, there exist incentive and informational problems among the suppliers of funds. In this context, Bangladeshi firms follow high payout ratio to satisfy investors' demand. These differences are due to the unique financial system of Japan, differences in ownership structure, taxation of dividend income, availability of information and the role of main bank. Moreover, the crossholding of stocks, active institutional participation in the debt and equity market also help Japanese firms to avoid market demand for dividends. On the contrary, Bangladeshi firms with infant capital market and restrictions on institutional investment cannot avoid the market demand for dividend suggested by market imperfections. In Bangladesh managers are concerned about their dividend policy. This concern is augmented by the role of regulatory arrangement, which act as a protector of minority shareholders. Shareholders exert a great deal of influence on dividend policy. The evidence presented provides insight into the dividend policy of firms in Japan and Bangladesh with different level of minority shareholder rights under different legal regimes.

Chapter-4 reviews the literature of agency and bankruptcy theories relevant to the issue of the study. This review includes a presentation of the theoretical, empirical and international research on capital structure determination.

Recent work in capital structure has expanded into a lucid analytical structure building upon the major contributions starting with the development of agency and bankruptcy theory. Analysis of the nature of the firm has broadened in studies that have included agency and information problems. Characterizing the firm not as an atom of analysis but as a set of contracts among suppliers of capital and the factors of production, researchers have identified several sources of agency costs and have shown the relationship of portfolio diversification to the separation of ownership and control. They have also identified signaling mechanisms by which costly information of uncertain validity may be effectively distributed and certified. Moreover, an understanding of how agency considerations arise and how they affect the

prices of financial securities can improve the appreciation of various business transactions and provide insights to the firm for reducing their undesirable effects. More important, a good understanding of the agency relationships implicit in contracts can be used to design procedures that can lower these agency costs and, thereby, benefit all participants in the business organization. In addition, agency theory can help in understanding better why the different organizational forms of business exist, and which can help in designing of contracts best suited for specific business transactions. The agency framework concentrates on the costs of certain relationships between firm related groups. The costs of the relationship between managers and stockholders (i.e., agency-equity costs) tend to discourage the issuance of equity. The costs of the relationship between debtholders and stockholders (i.e., agency-debt costs) tend to discourage the use of debt. Theoretically, the firms' optimal capital structure results from balancing these agency costs.

Finance theorists have long realized that sufficiently large costs of bankruptcy and financial distress could dramatically reduce the incentive for firms to use debt financing, even in a world of otherwise perfect capital markets. Moreover, in real world of finance, it reveals that overly indebted firms can be severely penalized if they cease to service their debts. Existing literature suggests that a bankrupt company's securityholders and protected bondholders, frequently lose their entire investment in a firm. If bankruptcy costs are material, the tax advantage may become offset at some level of debt. Then, a higher risk of bankruptcy should reduce the attractiveness of debt, and optimal capital structure with a high bankruptcy rate should contain low amounts of debt.

In chapter-5 we shed light on the relationship of agency theory with corporate governance. Different devices for mitigating agency costs and maintaining corporate governance have been conferred. We also discuss the corporate governance structure of Japan and Bangladesh.

The mechanisms that exist for intervening in the top management of corporations, and their effectiveness, constitute an important aspect of any system of corporate governance. The much studied principal-agent conflict between financiers and managers is probably most acute when optimal action required of a top management team is to sack itself. Normally, managers may be reluctant to do this. It is now realized in theory and practice that a variety of intervention mechanism exist. Generally, corporate governance deals with the ways in which suppliers of finance assure themselves of getting a return on their investment and in particular the separation of management and finance.

Agency costs can be reduced within the firm by internal monitoring and control devices and externally through corporate governance structure as the separation of management and control. Mutual monitoring among various managers may reduce agency problems and act as corporate governance system. Japan and Bangladesh show different corporate governance structure due to their differences in the market structure, institutional and regulatory environment and the state of development. The Anglo-American type of governance system is practiced in Bangladesh characterized by shareholders' interest through market corporate control, board of directors and direct intervention by large stockholder. On the contrary, the Japanese-German type of corporate governance featured by the large block of stable shareholding by financial institutions, the prevalence of interlocking of shareholding and unique pattern of industrial organization are the cornerstones of effective corporate governance system. Moreover, in Japan, stable shareholdings and share interlocks minimize agency conflicts among different parties. Corporate grouping and main bank system mitigate incentive and information problems in the financial markets. Close bank-firm relations through borrowings, shareholdings and board members' exchange undoubtedly increase information flows between groups and member firms. Shareholding and supply of board members by group banks facilitate bank's monitoring of member firms, thereby, reducing

incentive problems of the participants. As the bank holds both debt and equity of the firms other incentive problems between shareholder and debtholders are likely to be lessened. It can also prevent management's manipulation of earnings by curbing discretionary accruals. The role of main bank does not end with interim monitoring; indeed, they monitor ex-post and intervene in the management of firms in order to help the firms when they cannot meet contractual obligations. Banks act as rescuers of financial distressed firms. Main bank can make a liquidation or rescue decision and may take control rather smoothly without restoring to time-consuming bankruptcy proceedings. Apart from possible legal cost, the ability to reorganize with minimum disruption to customer, supplier and employee relation is quite valuable.

Corporate governance system in Japan is called 'insider' system where equity ownership is concentrated in banks, wealthy families and other customers. Cross-shareholdings between firms are very common. In insider systems, shareholders are able to monitor a company not only by watching the share price, but also by observing closely how the company performs in its key business relationships. The make-up of board of directors in insider system tends to monitor the make-up of long-term shareholder relationships. One of the benefits of insider systems such as Japanese *keiretsu* is that "industrial group members may be more inclined to invest in specialized, efficient, customer-specific assets, and less inclined to undertake mergers and acquisitions as a means of reducing the moral hazards of such investment" (Kester, 1991). In Japan, most of the stock of typical large companies are controlled by *keiretsu* members and the firm's other trading partners. Employees also have a central role in the governance of the firms, although it is a cultural phenomenon than the result of formal legal arrangements. Japanese corporations are run in the interest of the employees. The widely used practices in Japan of life time employment, bonus plan, selection of executives from within the ranks of employees, and the low ratio of executive pay to average employee

pay tend to support a culture that emphasizes the interest of the employees and works as an effective corporate governance system.

On the other hand, bank-firm relationship in Bangladesh is not so intimate as in Japan. Bangladeshi financial institutions are not allowed to participate in stock investment due to the regulatory arrangements i.e., holding of debt and equity. Banks and financial institutions in Bangladesh do not monitor the loan or investment and they do not provide any support to the concerned firms as in Japan. Japanese commercial code contains provision for a meeting of the bondholders' which is one of the important mechanisms of corporate governance in Japan. Another cogent explanation links investors monitoring to the operation of internal labor markets in Japan. Workers can expect to be employed with one firm for a much longer period than in case of Bangladesh. Corporation is the second home for corporate Japanese employees. This is a dominant view of managers and management in Japan, but seems to be unpopular in Bangladesh. In Bangladesh, the ultimate control of corporate governance rests on the directors. The Securities and Exchange Commission prescribes different rules and regulations as a watchdog of the corporations. Here, in the stock market based system individual investors have no incentive to gather the costly information needed to supervise and discipline managers in management controlled large corporations; the banks have both the incentive and capacity to subject corporate managers to much stringent supervision. Furthermore, in market-based system cross-shareholdings are rare, and equity ownership is dispersed among a large number of individual and institutional investors. The Japanese bank-based system demonstrates better dealing with the problems of agency, asymmetric information and transaction cost than in market-based system of Bangladesh. The Japanese experience of corporate and industrial structure is neither a totally applicable nor an utterly irrelevant case for a developing economy like Bangladesh. However, the Japanese experience

being an Asian country is more likely to be instructive in many respects than any Western nation.

Chapter-6 explains the major elements of the institutional environment in Japan and Bangladesh. We have also shed light on the differences between the legal and regulatory environment of Japanese and Bangladeshi firms. Moreover, focus has been given on the banking system of Japan and Bangladesh and their roles in mitigating agency costs.

Significant differences exist in the regulatory and institutional environment of Japan and Bangladesh. Japan is still more highly bank based financed than Bangladesh. A relatively large section of banking sector has influenced the Japanese corporate structure with shared authority at the top, large financial intermediaries that hold concentrated blocks of stock, interaction of bankers and managers in structured settings and multiple intermediaries that split the vote. On the contrary, there is a lack of developed financial institutions in Bangladesh e.g., they do not have finance company, merchant banks (although initiated recently), and trust banks. In Japan, bulk of the long-term finance is provided by trust banks. The manifestation of a non-performing regulatory framework is nowhere so evident in the financial sector of Bangladesh. The reasons rest on the fact that Bangladesh went for financial liberalization without providing adequate regulation and supervision for the financial institutions. Because of the inefficient and corrupt ridden banking system, there was an apprehension that a large part of the credit flow would turn into bad loans. The wide spread culture of loan default has led to a rise in high costs of financial intermediation by financial institutions reflected by the large spread between the deposit and lending rates. Moreover, there exist regulatory loopholes and weaknesses in the regulatory framework regarding methods of stock trading, protection of shareholders and the like. The increasing cost of financial intermediation, non repayment of bank and other financial institutions' loans also create severe problems for recycling loanable funds for financing new investments, and

effectiveness of loan utilization is reduced by low equity participation and by diversion of funds for non-investment purposes. These factors adversely affect the financial sector and its environment for operation, which resulted in a low level of key operations by these institutions over the recent years. On the other hand, the financial institutions in Japan are able to screen, monitor and intervene in the management of the firms through their unique aspect of capital market structure with the existence of the main bank. Under the institutional arrangements in Japan the large firm in a financial corporate group is able to avert sudden bankruptcy or take over bid because of the back up received from its main bank or other business partners. Ownership structure of Japanese and Bangladeshi firms show significant differences. In particular, heavier weight of financial institutions in corporate ownership is a common characteristic feature of Japanese firms. On the contrary, in Bangladesh largest number of shares are in the group of general public. Institutional participation is not present there like Japan. As ownership concentration is likely to be inversely proportional to the number of shareholders, diffusely-held corporations are poorly monitored, and to the extent that managers maximize objectives other than profit maximization, their profits would, *ceteris paribus*, tend to be lower than profits to similar corporations with a more concentrated ownership structure. Unlike Japan, in Bangladesh banks and firms are not inter-dependent, where industries rely heavily on banks as a stable source of finance; in turn, banks depend on firms as stable sources of loan demand. Moreover, Japan has a unique corporate system with institutional and regulatory system that attracts widespread attention throughout the world. Bangladesh, like other developing countries has limited role in this regard that distinguishes it from the Japanese system. It can be argued that institutional environments and financial institutions and their linkage with firms are widely believed to play an increasingly important role in corporate governance and in mitigating agency conflicts and costs in Japan compared to Bangladesh.

In chapter-7 we describe the theoretical model including theoretical determinants of capital structure and certain comparability limitations between Japanese and Bangladeshi accounting data. It also presents empirical evidences and a description of the analysis of the capital structure of Japanese and Bangladeshi firms. The test results and interpretations are also presented.

The theoretical model used in this study is based on a model developed by Dodd (1986). According to this model the firms' capital structure should result from balancing the costs of certain relationships between firm related groups. Three agency cost variables have been recognized as the main determinants of capital structure. These variables include agency-equity, agency-debt and bankruptcy risk. Three other potential determinants of capital structure are also included in the model. These variables are a firm's specific characteristic features of growth rate, profitability and operating leverage. The null hypothesis for agency-debt variable is that the cross sectional relationship to debt ratios for Japanese firms is equal to or more positive than Bangladeshi firms. The alternative hypothesis is that the relationship is less positive for Bangladeshi firms. The expected result is that the relationship is less positive for Japanese firms than that of Bangladeshi firms. The null hypothesis for the bankruptcy risk variable is that the cross-sectional relationship to debt ratios for Japanese firms is equal to or more negative than that of Bangladeshi firms. The alternative hypothesis is that the relationship to debt ratios for Japanese firms is less negative than Bangladeshi firms. The expected result is that the relationship of bankruptcy risk and debt ratios in Japanese firms is less negative than Bangladeshi firms. However, due to non-availability of agency-equity data for Bangladeshi firms' cross-sectional relationship for this variable could not be tested. Thus, this is one of the limitations of this study. Financial cross-section data are used for the period 1989-'94 ^{and 1995-2000} of which data were available for both Japanese and Bangladeshi firms. Multiple regression analysis, using the least square estimating method, is used

separately for Japanese and Bangladeshi firms. A comparison of accounting data between Japan and Bangladesh has been conducted. The major differences in accounting principles and reporting practices between the two countries are found mainly in the computation of depreciation allowances and in surplus entries, while revaluation of assets in response to inflation is similar in the two countries.

As for the parameter estimates of Japanese firms (1989-1994), out of six variables three are found significant and have the correct signs. These variables include bankruptcy risk, profitability and operating leverage. Among the other insignificant variables, (agency-equity, agency-debt and growth rate) only agency-debt has the expected theoretical sign. For the other three determinants of capital structure (debt ratio), for Japan two variables (profitability and operating leverage) are found significant with the expected theoretical signs, while the growth rate variable is not significant and has the wrong sign.

On the other hand, for the periods (1995-2000) the parameter estimates shows, out of six variables four are significant and have the correct signs. These variables include agency equity, bankruptcy risk, growth rate and profitability. Agency-debt variable was insignificant possessing the wrong sign. The other three determinants of capital structure (debt ratio), for Japan two variables (growth rate and profitability) are found significant with the expected theoretical signs, while the operating leverage was insignificant possessing the theoretically expected sign.

According to our regression results (1989-1994), the two agency cost variables (agency-equity and agency-debt) are not statistically significant for Japanese firms. It is also found that the agency-equity relationship for the Japanese firms was not significant and was seen to have the wrong sign. However, for the period 1995-2000 one agency cost variable i.e., agency-debt variable was not significant and had the wrong sign. This result was expected because of the unique shareholding structure and institutional arrangements among the

enterprises of the group. In a widely-held firm, stockholders are the owners and managers are the decision agents; this distinction is not clear in Japan. Interlocking of stocks among the enterprises of a group and undisclosed, binding associations of companies are also common practices in Japan. Moreover, Japanese financial institutions with sizable equity stakes in firms may reduce agency conflicts between owners and managers by controlling managers' consumption prerequisites and by reducing their scope to pursue goals other than profit maximization.

As for agency-debt variable, it was insignificant for the Japanese firms but possessed a correct positive sign, a result which is inconsistent with Dodd's results. According to agency theory, firms with shorter maturity debt (a high ratio of short-term debt) should reduce agency costs of debt, thus allowing for higher levels of debt relative to equity. Therefore, the positive sign of the coefficient of agency-debt variable obtained in our results conform with this theoretical expectation, although it was statistically insignificant. In Japan the typical terms and covenants of debt is seem likely to reduce agency costs more effectively. Most of the debts of Japanese companies are short-term and they are mainly supplied by banks. The continual rolling over of short-term debt is one of the ways of alleviating the potential underinvestment problem associated with debt. The wide spread use of secured debt should also lower agency costs by reducing the monitoring costs associated with debt and the scope for asset substitution. The funding of new projects with secured debt can also relieve the underinvestment problems by enabling the shareholder to capture a larger fraction of the projects' value in contrast to what might be possible with unsecured debt.

Bankruptcy risk variable for Japanese firms is found statistically significant with the correct theoretical sign. Since bankruptcy risk variable has an inverse relationship with capital structure any increase in bankruptcy risk may lead to the reduction of debt ratio.

Although an important financial benefit arising from Japanese corporate ownership and banking relationships has reduced costs of bankruptcy, corporate bankruptcies exist in Japan.

As for the parameter estimates of Bangladeshi firms (1989-1994), out of five variables four are found significant. These variables include agency-debt, bankruptcy risk, profitability and operating leverage. Thus, apart from the operating leverage, the other three variables have the expected theoretical signs. The growth rate variable has the expected sign (positive), however, it is not significant. For Bangladesh, profitability and operating leverage were significant, although operating leverage had the wrong sign, and growth rate variable was not significant as a determinant of capital structure. The overall regression results for the Bangladeshi firms conform to the theoretical expectation.

The parameter estimates (1995-2000) reveal, out of five variables all are found significant as a determinant of capital structure. These variables include agency-debt, bankruptcy risk, growth rate, profitability and operating leverage. Thus, apart from the agency-debt and growth rate, the other three variables have the expected theoretical signs. The overall regression results for the Bangladeshi firms conform to the theoretical expectation. Unfortunately, data were not available for testing the role of agency-equity costs in determining capital structure in Bangladeshi firms.

Japanese and Bangladeshi regressions are compared to obtain information to identify the source of differences between them. The Chow test is conducted to statistically compare the Japanese and Bangladeshi regression equations. It is revealed that the F value for the period 1989-1994 is 4.1060 and for 1995-2000 is 9.44 and is significant at the 5 percent level. Thus, the two regression equations (Japan and Bangladesh) are statistically different.

The focus of this study is the source of the difference in the two regressions. Agency-debt and bankruptcy risk proxies' regression coefficients are tested for statistical differences for the periods 1989-1994 and 1995-2000 between Japanese and Bangladeshi firms. The null

hypothesis for agency-debt variable is that the cross sectional relationship to debt ratios for Japanese firms is equal to or more positive for Bangladeshi firms and the alternative hypothesis is that the relationship is less positive than the relationship for Bangladeshi firms. The expected result is that the relationship to debt ratios is less positive for Japanese firms than that of Bangladeshi firms. The result of the statistical test reveals that the t value for the agency-debt test is significant at the 5 percent level for both the periods. Thus, the null hypothesis is rejected. This rejection conforms to priori expectations.

The null hypothesis for the bankruptcy risk variable is that the cross-sectional relationship to debt ratios for Japanese firms is equal to or more negative than for Bangladeshi firms. The alternative hypothesis is that the relationship of bankruptcy risk to debt ratios for Japanese firms is less negative than that for Bangladeshi firms. The expected result is that the relationship of bankruptcy risk and debt ratios in Japanese firms is less negative than that for Bangladeshi firms. The result of the statistical test shows that the t value for the bankruptcy risk is not significant for the period 1989-1994. Thus, the null hypothesis for the bankruptcy risk is not rejected. However, for the period 1995-2000 the result of the statistical test shows that the t value for the bankruptcy risk is significant. Thus, the null hypothesis is rejected. This rejection conforms to priori expectations. However, due to non-availability of agency-equity data for Bangladeshi firm, cross-sectional relationship for this variable could not be tested. Thus, this is one of the limitations of this study. We have compared our results with previous studies (Dodd, 1986) regarding the signs and significances of the variables included in the study. Our regression results, particularly for Bangladesh, appear to be more or less consistent with the US sample.

Thus, the estimated results provide empirical support for the theoretical agency relationships in determining capital structure in particular for Bangladeshi firms. These results are consistent with the fact that due to the institutional differences between the two

countries agency structures should also be different. Moreover, Japanese financial institutions, motivated by a desire to lessen one or both of the agency conflicts between shareholders and managers and shareholders and debtholders, actively monitor the firm in which they invest, and thereby contribute towards mitigating the agency conflicts more effectively.

Finally, chapter-8 gives an overview, summary and conclusion of the study on theoretical and empirical aspects of agency relationships and capital structure of Japan and Bangladesh providing different theoretical developments of capital structure determinants and the related issues.

The salient features and contributions of this study are hence as follows:

- i) This study has documented for the first time that the agency model of capital structure can be applied for the determination of capital structure in a developing economy like Bangladesh.
- ii) This study has confirmed significant differences in the agency relationships and capital structure between Japan and Bangladesh.
- iii) We have documented for the first time that the capital structure and cost of capital of Japan and Bangladesh are significantly different.
- iv) This study has identified significant differences in the agency and corporate governance structure and institutional environment between Japan and Bangladesh in mitigating agency conflicts and costs.
- v) We have also documented for the first time that agency model of dividend can be applied for a developing economy like Bangladesh. It is observed that dividend policy vary across legal regimes in ways that are consistent with the outcome agency models of dividends and depends on shareholder protection. We have observed that dividend behaviors of Japan and Bangladeshi are different due to regulatory and institutional differences.

Unlike the previous studies, this study has covered a period of recession that began with the collapse of the bubble economy in 1991 and is continuing for the second longest period in Japan. Due to the recession, the research results may differ in some respects with those of the prior studies. Though the agency cost models were tested earlier for developed countries such as the USA and Japan, this study marks for the first time that this analytical framework can also be applied to a developing economy like Bangladesh. Future research can be directed towards further analysis for better understanding of these agency relationships with capital structure. Additional insight can be brought forth by testing the effects of the relationships between shareholders, debtholders and managers for other financial decisions and in other institutional environment.

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Chapter 1

Introduction

In taking most of the financial management decisions, financing and investment are perhaps the most important factors in determining the long-term existence and profitability of the company. An investment project is an opportunity for the firm to spend on expanding or replacing productive capacity in return for future benefits from increased sale or reduced operating costs. On the other hand, the financing decision, i.e., the capital structure decision determines the ownership for the providers of finance and deals with the firm's choices of the types of securities to issue. Capital structure theories seek to explain how the financing mix is determined. Perhaps no area of financial management has commanded as much attention as the capital structure problem. The problem of determining the optimal capital structure of the firm is one of the central issues both in theory and practice of financial management. There is a general controversy over whether there exist some optimal compositions of debt equity mix at which the value of the firm will be maximized.

Maximization of the firm's current value (i.e., to maximize shareholders' wealth) has been one of the main objectives of the firm. A firm creates wealth by making successful investment decision, which generates positive cash flows. The criterion for the market value maximization of the firm is a function of two variables: the expected earnings stream from the asset and the rate at which that stream is capitalized by the market. Capital structure decisions need to be evaluated in the context of the effect on both the variables.

The asset portfolio of a firm is bought through the use of funds. There are many ways in which a firm can raise funds for investment. Generally, these funds are acquired either internally, as with retained earnings or externally by selling financial claims. The possible external sources are the issue of new equity capital (shares) and the issue of debt (debenture). The basic difference between the two is that debt is secured, having prior claim on income and assets. In contrast, equityholders have a residual claim on the firm and their income from dividend is variable. Debt, therefore, seems to be less risky than equity. Because of this, the rate of return required by equityholder is greater than that of debtholders. The existence of different rates of return raises the possibility that there may be an optimal way of financing investment by issuing debt and equity. Thus, if the corporate management can maximize the market value of the firm by manipulating the debt equity ratio then they should do so. It is believed that the optimal capital structure if there is any, is the policy, which maximizes firm value or shareholders' wealth.

The capital structure chosen by the firm depends on cash flow generated by the asset portfolio. However, the future cash flow generated by an asset portfolio is also a matter of judgment. There are three possible groups who are the party to the choice of capital structure. The first is the management, the second and third are the stockholders and creditors of the firm. The capital structure will depend on the judgment that each of these groups has about the future cash flows.

Many financial scholars hold that the basic proposition of the theory of firm's finance is the capital structure theorem, which specifies the relationship between the firm's capital structure and its cost of capital. From these theorems follow other

propositions concerning the relationship between firms' investment and dividend policy and its cost of capital and the market value.

A major concern for a firm is to ascertain that production is conducted in the most efficient manner, taking the advantage of the benefits of specialization conserving scarce factors, and so on. But even if we can work effectively to produce the goods, there would be the problem of ensuring that each individual performs his or her agreed-on task. If information flowed costlessly and perfectly, superiors would know what their subordinates knew and what they were doing. The stockholders could be confident that managers were operating the corporation as if it were their own. But in real life full information is not easily available to all parties and so the problem becomes how to construct an arrangement that will induce agents to serve the principal's interest in a situation when their actions and information are not observed by their principal.

Whenever one depends on the action of another, an agency relationship arises; the individual taking the action is called the agent and the affected party is the principal. In many cases, the agency relationship may be reciprocal. The challenge in the agency relationship arises whenever the principal cannot perfectly and costlessly monitor the agent's action and information. The problem of inducement and enforcement then comes to the forefront. Generally, the agency relationship is pervasive in business. Recognizing this frequent pattern that underlines a variety of surface forms helps a lot to explain how business is organized i.e., business' relationships are structured so as to enable principals to exert an appropriate influence on the actions of the agents.

Generally, given information asymmetries, agents typically know more about their tasks than their principals. Although principals may know more about what they want to accomplish, it is unexpected that any business firm to function as well as it would if all information were costlessly shared or if the incentives of principal and agent(s) could be costlessly aligned. This shortfall is called agency loss or agency costs. The challenge in structuring an agency relationship is to minimize it. Moreover, business participants have been quite successful in structuring mechanisms and arrangements to deal with agency problems. As this struggling world of business is full of imperfections and shortfalls one hopes to change the situation and bring about improvement.

Most of the participants in an economy i.e., business, customer, and society at large struggle to deal with the intractable problems that arise in agency relationships, that organizational forms evolve to deal with them, and that on average these forms perform reasonably well. It is natural that we must expect waste, slowness and even dishonesty, but the question is whether we can keep them to manageable proportions (Pratt and Zeckhauser, 1984).

Throughout the last three decades, various new managerial theories of the firm (e. g., Jensen and Meckling, 1976; Myers, 1977; and Amihud and Lev, 1981) have evolved in the context of agency theory and the two related problems of agency and informational asymmetry have received increasing attention in finance. These modern views bring more realism to the theory of capital structure by addressing agency problems in the context of the firm which is viewed as a nexus of contracts among various parties, where the contractual relationship involves incentive conflicts arising from the pursuit of self-interest (Chung, 1993). In particular,

finance theorists and economists, point to a variety of conflicts between the classes of organizational stakeholders, which result in agency costs.

Agency theory is a relatively new area. With the advent of agency theory in the mid 1970s, considerable developments have been witnessed in the world of business finance. These developments in the academic arena have influenced the practice of financing. Agency concepts, as applied to finance theory, were introduced by Jensen and Meckling in 1976. They stimulated the new agency literature by extending the analytical formulations of the relationships between owners and managers. Jensen and Meckling identify two types of conflicts and examine the agency problem, which arises when an owner manager owns less than 100 percent of the residual claim. Private and individual consumption by the manager of the firm's wealth costs him only in proportion to the fraction of his ownership of the firm, the remainder being borne by the other owners. Agency costs arise where contract involving one or more persons (principals) are used to engage another person (agent) to perform some services on their behalf, which involves delegating some decision-making authority to the agent. Agency costs then include monitoring and bonding costs together with residual loss, the irreducible reduction in the firm's value from separation of ownership and control. The agency framework concentrates on the costs of certain relationships between firm related groups. The costs of the relationship between managers and stockholders tend to discourage the issuance of equity. The costs of the relationship between the debtholders and the stockholders tend to discourage the use of debt. Theoretically, the firm's optimal capital structure should result from balancing these costs.

Great strides have been made in demonstrating empirically the role of agency costs in financial decisions, such as in explaining the choices of capital structure, dividend policy and executive compensation. However, the actual measurement of interest, agency costs, in both absolute and relative terms, has lagged behind.

Few empirical studies have been done on the application of agency theory to capital structure decisions due to the difficulties in observing agency costs. The problem of available proxies to measure theoretical construction has been a difficult problem for researchers. Moreover, few empirical studies have extended the analysis of capital structure determination to the international sector.

Here, we attempt to extend agency research by testing agency relationships with capital structure for Japanese and Bangladeshi firms. There are considerable differences in market size, market structure, institutional and regulatory environment and corporate governance between Japan and Bangladesh. This study will provide further insight into these anomalies. If the financial structure of Japan is considered, it is observed that the weight of stock and corporate bond as a source of capital supply is low. The financial institutions dominate as a source of capital for the enterprises. There have been apparent peculiarities in the equity market, such as, the extensive crossholding of stocks among enterprises of the group, role of the main bank and so on. Besides, Japanese law allows financial institutions to be significant suppliers of debt and equity to the same Japanese firms, whereas, Bangladeshi law is much more restrictive in this respect. Institutional investors in Japan generally give more latitude to own shares and exert control over firms than they do in Bangladesh. These differences in shareholdings suggest that there are significant differences in the abilities of Japanese and Bangladeshi financial

institutions, as major debtholders of firms, to mitigate potential debtholder-shareholder agency costs. Indeed, the successful corporate governance systems in Japan rely on some combination of concentrated ownership and legal protection of investors. Because of having a system of permanent large investors, hostile takeovers are rare in Japan. Permanent large shareholders and banks dominating corporate governance obviously have some advantages, such as the ability to influence corporate management by patient investors. These investors may be better able to help distressed firms as well. Moreover, firms with a main bank relationship in Japan go through financial distress with less economic distress and better access to financing. Keeping in view the above facts, we will study agency relationships and capital structure in Japanese and Bangladeshi firms.

With the foregoing background let us have a look on the composition of this study. The study is divided into eight chapters. Chapter-1 gives an introduction containing a broad overview of the background of the study.

In Chapter-2, we review the literature of different capital structure theories and the implications of cost of capital that have been used to explain capital structure decisions. This review includes a presentation of the theoretical and empirical research on capital structure determination. The capital structure and cost of capital patterns of Japanese and Bangladesh firms has been examined and the reasons for the differences have been identified.

Chapter-3 deals with the different views of dividend policy and evaluates them from agency theory perspectives. We also discuss the dividend practices of Japanese and Bangladeshi firms. Empirical analysis has been conducted for Japanese and Bangladeshi firms based on agency model of dividend.

Chapter-4 reviews the literature of agency and bankruptcy theories relevant to the issue of the study. This review includes a presentation of the theoretical, empirical and international research on capital structure determination.

In Chapter-5 we shed light on the relationship of agency theory with corporate governance. Different devices for mitigating agency costs and maintaining corporate governance have been conferred. We also discuss the corporate governance structure of Japan and Bangladesh.

Chapter-6 describes the major elements of the institutional environment in Japan and Bangladesh. We have also shed light on the differences between the legal and regulatory environment of Japanese and Bangladeshi firms. Moreover, focus has been given on the banking system of Japan and Bangladesh and their roles in mitigating agency costs.

In Chapter-7 we describe the theoretical model including theoretical determinants of capital structure and certain comparability limitations between Japanese and Bangladeshi accounting data. It also presents empirical evidences and a description of the analysis of the capital structure of Japanese and Bangladeshi firms. The test results and interpretations are also presented.

Finally, Chapter-8 gives the summary and conclusion of the study providing different theoretical developments of capital structure determinants and the related issues. We have also documented empirical results and findings of the capital structure determinations of Japanese and Bangladeshi firms using agency cost model. The results of empirical analysis for capital structure and cost of capital, agency model of dividend of Japanese and Bangladeshi firms have been given. Moreover, insight on capital structure and bankruptcy theories, corporate

governance structure and institutional environment of Japanese and Bangladeshi firms have been presented.

We believe that the presentation of the theoretical concepts as well as its empirical evidences, which either support or refute the theory, is necessary. Both the positive and negative sides have to be taken into consideration when we are studying a problem. Then, the empirical evidences from Japanese and Bangladeshi firms vis-à-vis the theoretical development of the capital structure and agency theories, capital structure and cost of capital patterns and agency model of dividend have been investigated and hence we have this dissertation.

Chapter 2

Capital Structure and Cost of Capital: Evidence from Japan and Bangladesh

One of the most discussed aspects of corporate finance has been the capital structure of the firm. A firm's capital structure represents the mix of securities that it has sold in order to finance its asset acquisitions. There are many ways in which a firm can raise funds for investment, but the principal methods are the issue of new equity capital (shares) and the issue of debt (debenture). The basic difference between the two is that debt is secured, having prior claim on income and assets. In contrast, equityholders have a residual claim on the firm and their income from dividend is variable. Debt, therefore, seems to be less risky than equity. Due to this reason, the rate of return required by equityholders is greater than that of debtholders. The existence of different rates of return raises the possibility that there may be an optimal way of financing investment by issuing debt and equity. Then, the capital structure problem would deal with the firm's choices of the types of securities to issue and two fundamental questions are raised: i) Whether capital structure matter and the total market value of a firm's securities be increased or decreased by changing the mix of debt and equity financing? and ii) If capital structure matters, what are the factors that determine the optimal mix of firm's debt and equity that will maximize the market value and thus minimize the cost of capital? Capital structure theories seek to explain how financing mix is determined.

Providing lucid insights into the above-mentioned questions is important. If capital structure matters, and if we could determine accurately the vital factors, the

benefits to the concerned parties would be enormous. Corporation's managers always try to ensure that their companies are being financed by lowest possible cost, investors put their savings to the financial markets by guaranteeing maximum return for minimum risk and the nation's stock of investment capital be allocated to its maximum and top use.

Thus, the theory of capital structure is closely related to the firm's cost of capital. There is a general controversy whether there exists some optimal composition of debt-equity mix at which the value of the firm can be maximized. Unfortunately, academic finance cannot yet provide unambiguous answers to the two key capital structure questions, despite the fact that this area has been the focus of passionate research for the last four decades. The question concerning the existence of an optimal capital structure began in 1958, a debate which was initiated by Modigliani and Miller's well known proposition developed within the framework of perfect capital market and there is, as yet, no resolution of the conflict in sight. While the traditional theory of finance claims that the cost of capital is a U shaped function of capital structure, the classic contribution of Modigliani and Miller (MM) dealing with a simplified world, was able to show that the financing decision makes absolutely no difference at all where one combination of financing is just as good for the company as any other combination so that any decision about financing is necessarily optimal. M-M assert that in a world of perfect markets the cost of capital is independent of capital structure.

In discussing the theory of finance, Fama and Miller (1972) mentioned two separation principles. According to them the major result of capital structure theory is the first separation principle; that is for any given set of operating decisions by

firms at period 1, when the capital market is perfect, in equilibrium total market value of any firm at period 1 is unaffected by its financing decisions. Moreover, the firm's financing decisions have no effects on either the wealth's or the capital market opportunities of its securityholders. It follows that optimal operating decisions for the firms do not depend on its financing decisions, that is, operating and financing decisions are separable. On the other hand, second separation principle reveals that given perfect capital markets, optimal operating decisions for a firm at any point in time involve maximizing the market value of those securities outstanding before the operating decision is made; that is, optimal operating decisions are independent of, or separable from, the details of securityholders' tastes and can be made according to the market value rule.

Not surprisingly, devising a single theory to explain all the phenomena of capital structure is enormously difficult. Nonetheless, a variety of capital structure theories have been advanced to explain capital structure patterns. Based on different views on the capital structure, an attempt can be made to have an insight in the analysis of these theories and then examine them in the presence of more realistic assumptions of agency cost.

The following notations are used to facilitate the discussion:

S = Market value of common shares

D = Market value of debt

V = $S+D$ = Total market value of the firm

$\text{NOI} = \bar{X}$ = Expected net operating income,
i.e., earnings before interest and taxes

NI = Expected net income

K_o = Capitalization rate

K_d = Rate of interest on bond

K_e = Rate of return on equity

t = Corporation tax rate

The Traditional View

The traditional approach very clearly implies that the cost of capital decreases within the reasonable limit of debt and then increases with leverage. Thus, an optimal capital structure exists and occurs when the cost of capital is minimum or the value of the firm is maximum. The cost of capital declines with leverage because debt capital is cheaper than equity capital with reasonable limit of debt.

Modigliani-Miller Capital Structure Irrelevance Propositions

The traditional view of capital structure policy is rejected by proponents of the modern view, which was originally expounded by Modigliani and Miller (M-M). Modigliani and Miller, in a 1958 study, offer analytical arguments and some empirical evidences suggesting that the traditional view is incorrect. The traditional view suggests the existence of beneficial effects of leverage on the cost of capital and market value, whereas Modigliani and Miller insist that in the absence of taxes on corporate income, market value and the cost of capital are independent of the leverage employed by the firm. This independence derives the hypothesis that, irrespective of the effects of leverage on interest rates the equity capitalization rate will rise by an amount sufficient to offset any possible savings from the use of low-cost debt. They hold that the form of financing can neither change the net operating income nor the risk attached to it. It can simply change the way in which net operating income and the risk attached to it are distributed between equity and debtholders. They further argue that in a world of perfect markets and rational

investors, firms with identical net operating income and risk but differing in their modes of financing, should have same market value. M-M hold that the market value of the firm depends upon its net operating income and risk attached to it not on the form of financing. M-M's logic is based on arbitrage argument. Arbitrage opportunities exist when a commodity sells for more than one price. Should there be a discrepancy in market values, they propose a simple switching mechanism (arbitrage) that enables an investor to engage in personal leverage to restore equilibrium in the market. In this type of environment the investment and financing decisions are completely separable with the value of the firm being completely determined by the company's investments.

The important assumptions in the M-M model which generate the proof of their proposition are the following:

- a) Capital markets are perfect. Information is costless and readily available to all investors, there exist no transaction costs and investors are assumed to act rationally.
- b) Investors can borrow or lend at the same market rate of interest as the firm.
- c) There is no bankruptcy cost.
- d) Firms can be categorized into equivalent risk classes and all firms within a risk class have the same degree of business risk.
- e) There are no transaction costs to investors and firms when they issue and trade securities.
- f) There are no corporate income taxes.
- g) Capital market is highly competitive.
- h) Investors are indifferent between dividend and retained earnings.
- i) Coincidence of expectation exists among investors.
- j) The investment strategies of the firms are given and remain independent of how the investment is financed.

- k) Corporations can issue only two types of securities, risky equity and risk-free debt.
- l) There is no growth; so all cash flow streams are perpetuities.

If all the above assumptions are true then according to M-M the following proposition will hold:

Proposition – 1: Based on earlier assumptions, M-M's first proposition states that, for firms in the same risk class, the total market value is independent of the debt equity mix and given by the expected net operating income discounted by the rate appropriate to that risk class. In other words, in the absence of corporate taxes the value of the firm is independent of its capital structure, that is, of the debt equity mix. In notational form it becomes as follows:

$$V_L = V_u \quad (1)$$

where,

$$\begin{aligned} V_u = S_u &= \text{Total market value of unlevered firm's securities} \\ V_L = S_L + D_L &= \text{Total market value of levered firm's securities} \\ S_L &= \text{Market value of levered firm's share} \\ D_L &= \text{Market value of levered firm's debt.} \end{aligned}$$

The cost of capital and firm value hypothesized by M-M can be shown as in Figures 2.1 and 2.2:

It is evident from these figures that, with a constant interest rate on debt, K_d , the equityholder's required rate of return rises by exactly enough to keep the weighted average cost of capital constant. But a constant average cost of capital means that the firm's value is also unaffected by capital structure. It is, however, likely that as more debt is issued, lenders will demand greater returns from companies which are

already highly levered. This implies that K_e , the return on equity, is no longer a linear function of leverage as shown by the following equation:

$$K_o = K_e (S / V) + K_d (D / V) \dots\dots(2)$$

Figure –2.1
The Effect on Cost of Capital of Capital Structure

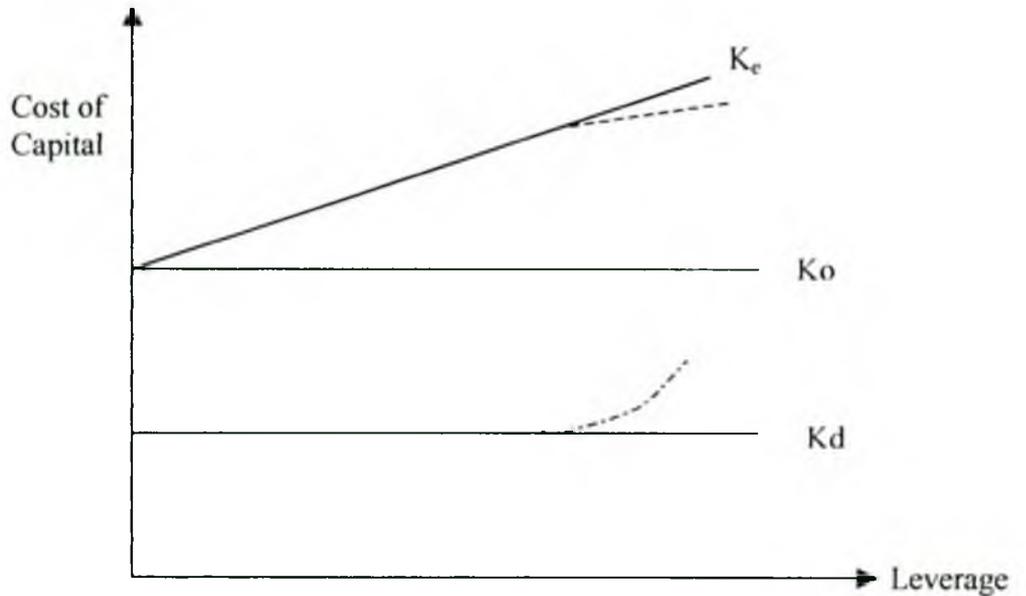
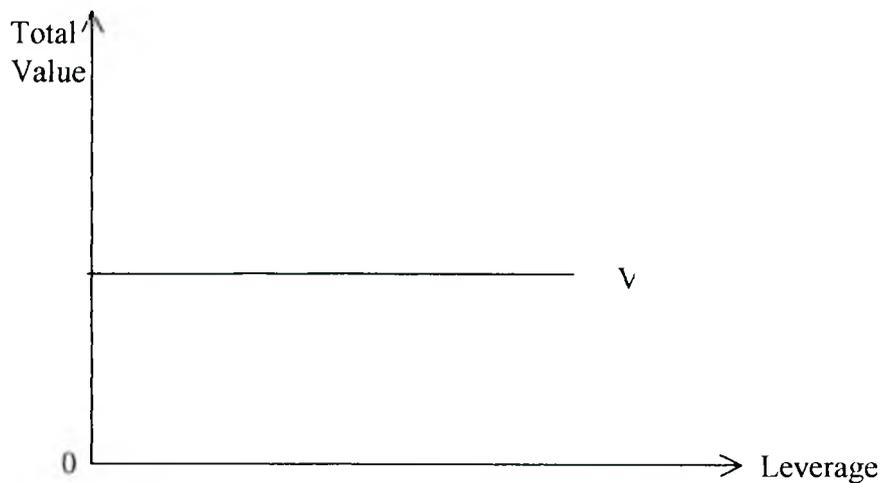


Figure – 2.2
The Effect on Firm Value of Leverage



This is because the positive effect of the increase of D/V is partly offset by the increase in K_d . This does not mean that the cost of equity need ever actually fall,

but it increases more slowly at a high level of issued debt. These impacts are shown by the dashed line in Figure-2.1.

The value of the firm under proposition-1 may be stated in terms of the notations mentioned above:

$$V = S + D = \text{NOI} / K_o = X / K_o \quad \dots\dots(3)$$

That is :

$$K_o = \bar{X} / V \text{ or } \bar{X} = K_o V \text{ or } \bar{X} = K_o (S + D) \quad \dots\dots(4)$$

Since the cost of capital is defined as the expected net operating income divided by the total market value of the firm and since M-M conclude that the total market value of the firm is unaffected by financing mix (Figure-2.2), it follows that K_o is a function of the uncertainty about the expected net operating income, which is calculated before interest and consequently independent of debt/equity ratio.

Proposition – 2: The cost of equity to a levered firm is equal to the cost of equity to an unlevered firm plus a risk premium which depends on the degree of financial leverage the firm uses. That is,

$$K_{el} = K_{eu} + \text{risk premium} \quad \dots\dots (5)$$

$$K_{el} = K_{eu} + (K_{eu} - K_d) (D/S)$$

Where,

K_{el} = Cost of equity of levered firm

K_{eu} = Cost of equity of unlevered firm

K_d = Interest rate on the firm's debt

S = Market value of firm's equity

D = Market value of firm's debt

The implication of the above proposition is that the cost of equity increases as the firm's debt increases.

Proposition – 3: The logical conclusion to the Modigliani and Miller position is found in proposition 3, which states that if a firm in a given risk class is acting in the best interest of the shareholders at the time of the decision, it will exploit an investment opportunity if and only if the rate of return on the investment is as large as or larger than K_0 (capitalization rate). That is, the cutoff point for investment in the firm will, in all cases, be K_0 and will be completely unaffected by the type of security used to finance the investment.

Capital Structure with Corporate Income Taxes

M-M modified their model of 1958 by dropping the assumption of no taxes (Modigliani and Miller, 1963). They included corporate tax in their model. The M-M model with corporate taxes changed proposition-1 in a startling fashion and also modified proposition-2. The new propositions were as follows:

$$V_l = V_u + TD \quad \dots \quad (6)$$

Where,

$$\begin{aligned} V_l &= \text{Value of levered firm} \\ V_u &= \text{Value of unlevered firm} \\ T &= \text{Corporate tax rate} \\ D &= \text{Value of firm's debt} \end{aligned}$$

The implication of this proposition is that the value of the firm is maximized when it captures the full advantage of tax savings, which would happen when the firm is fully (100%) debt financed.

Proposition-2: The cost of equity to a levered firm is equal to the cost of equity to an unlevered firm plus a risk premium, which depends on both the degree of financial leverage and corporate tax rate.

$$K_{el} = K_{eu} + (K_{eu} - K_d)(1-T)(D/S) \quad \dots \quad (7)$$

In contrast to proposition-2 (M-M, 1958) the above proposition states that as the firm's use of debt increases the cost of equity also increases but at a slower rate. It is the characteristic which increases the firm's value as leverage increases in the presence of corporate tax.

M-M observed that in the real world firms are not 100% debt financed because firms maintain, "reserve borrowing capacity". The need for such flexibility is however not clear in perfect capital market. They have also suggested that incremental tax advantage of borrowing declines as more debt is issued and tax shields become less certain.

Capital Structure with Corporate and Personal Taxes

After the publication of Modigliani and Miller's second paper finance theorists and researchers were in a dilemma. Their theoretical models suggest that capital structure was either irrelevant or should be set at 100 percent debt, but objective reality suggested none of the alternatives was correct. Then Miller (1977) modified the M-M model of 1963 further by introducing personal tax and offered an explanation for the fact that the U.S. corporate leverage ratios had averaged 30 and 40 percent of total capital for several decades (except during Depression), in spite of the fact that corporate tax rates had varied between zero (prior to 1913) and over 50 percent (during the 1950s) during the same period. He pointed out that personal tax rates on investment income had almost invariably been changed simultaneously with, and in the same direction as, changes in corporate tax rates (Beatty, 1995). Miller showed that a sophisticated model which incorporated personal taxes could explain observed capital structure, without the presence of large cost of bankruptcy based on the following assumptions:

- a) Progressive personal tax rates
- b) No tax avoidance by arbitrage schemes for both individuals and firms
- c) A personal tax differential in favor of income tax from stocks as compared with income from bonds
- d) The opportunity for riskless borrowing and lending exist

Miller model shows that,

$$V_l = V_u + [1 - (1 - T_c)(1 - T_s) / (1 - T_d)] D \dots \quad (8)$$

Where,

T_s = Shareholder's Tax rate

T_d = Bondholder's Tax Rate

If $(1 - T_c)(1 - T_s) = (1 - T_d)$ then the value of the debt to the firm would be reduced to zero. Here the tax advantage of the debt to the firm would be exactly offset by the personal tax advantage of equity. Miller argued that if the owners of firm could increase their wealth by substituting debt for equity (or vice versa) then such a situation would be incompatible with market equilibrium. The owners' attempt to exploit such opportunities would lead, in the presence of progressive income tax, to changes in the yields of stocks and bonds and their ownership pattern. The changes in turn would restore the equilibrium and remove incentives to issue more debt.

Miller's model, however, shows that there is an optimal amount of debt capital in an economy. Nevertheless, any one firm is indifferent to the amount of debt in the capital structure. Thus, Miller's model with corporate tax and progressive income tax has the same conclusion as the no tax M-M model namely, irrelevancy of capital structure. It is difficult to find errors in the models under the given

conditions. Still, these models fail to explain observable financial behavior of the firms in the market. It appears that their assumptions could not capture the reality. A number of critics tried to indicate the inadequacy of the assumptions (Metha, 1988).

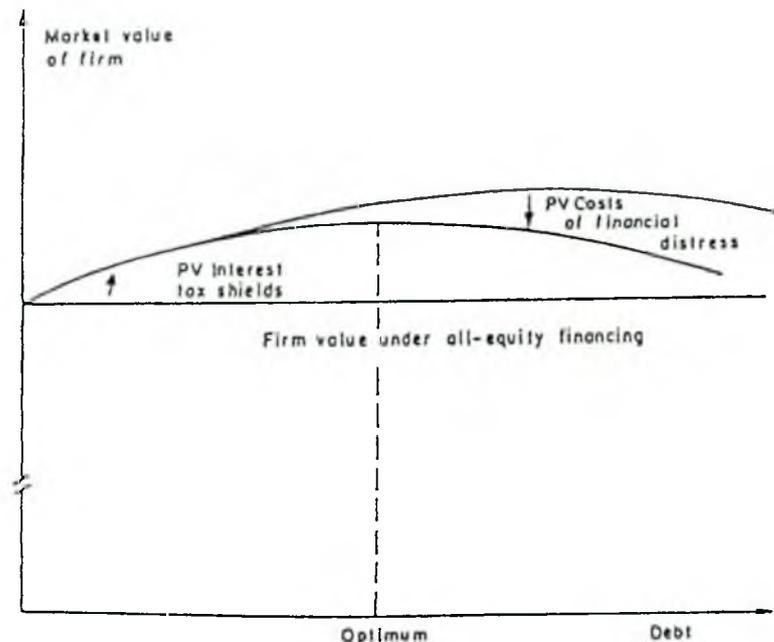
The Tradeoff Theory of Capital Structure

This model assumes that capital structure decision, under the firm's constant assets and investment policy, and the optimal debt ratios are the result of individual firms' trading off the tax benefits of increased debt usage against the increasingly severe agency costs that arise as debt ratios appear at critical levels. The firm is portrayed as balancing the value of interest tax shields against various cost of bankruptcy or financial distress. There exists controversy over how valuable the interest tax shields are and what kinds of financial distresses are material. Under this theory, until the value of the firm is maximized, the firm is supposed to substitute debt for equity or equity for debt. This tradeoff is revealed from the following Figure- 2.3.

The tradeoff theory of capital structure suggests that target debt ratio may vary from firm to firm. While companies with safe, tangible assets and plenty of taxable income to shield ought to have high target debt ratios, the unprofitable companies with risky, intangible assets ought to rely on equity financing. In the absence of the cost of adjustment, each firm should be at its target debt ratio. However, there are costs and delays in adjusting to the optimal ratio. Immediately, the firm cannot bump them away from the optimal, so there exists random differences in actual debt ratios among firms having the same debt ratio. Unlike the corrected M-M theory, which advocated that firms should take as much debt as possible, the

tradeoff theory avoids extreme predictions and rationalizes moderate debt ratio (Brealey and Myers, 1988). This model has evolved from the modifications to the original Modigliani and Miller capital structure irrelevance hypothesis, and is the “mainstream” choice of most academics and financial practitioners. It also has the attractive features of being solidly based on a capital market equilibrium and value maximizing arguments (Megginson, 1997).

Figure – 2.3
The Tradeoff Theory of Capital Structure



The Pecking Order Hypothesis

A very strong contestant has emerged during the past decade as the shortcomings of the trade-off model have become evident. The Pecking Order Hypothesis has been developed almost single handedly by Myers (1984) based on Donaldson’s (1961) study of the financing practices of the US corporations. Donaldson made the following observation:

Management strongly favored internal generation as a source of new funds even to the exclusion of external funds except for occasional unavoidable “bulges” in the need for funds. He further argued that the occasional “bulges-in funds” requirements were seldom met by reducing the firm’s dividend payout. Moreover, when external financing was required, firms rarely restored the sale of common stock. Though few companies would go so far as to rule out a sale of common stock under any circumstances, the large majority had not had such a sale in the past 20 years and did not anticipate one in the foreseeable future. This was particularly remarkable in view of the very high Price-Earning ratios of recent years. Several financial officers showed that they were well aware that this had been a good time to sell common, but the reluctance still persisted.

Myers (1984) termed this view of firm’s financing decision as Pecking Order Theory. He noted the following pecking order for financing decisions:

1. A preference for internal funds.
2. Firms adapt their dividend payout policies to reflect their anticipated investment opportunities, although dividends are sticky and target payout ratios are only gradually adjusted to shifts in the extent to valuable investment opportunities.
3. If external financing is required, firms issue the safest security first. They start with debt, then possibly hybrid securities such as convertible bonds, then finally possibly equity as a last resort.

In Pecking Order Theory there exists no target debt-equity mix. There are two types of equities, internal and external, one being the first priority for new financing and the other the last. Consequently, each firm’s debt equity financing mix reflects its cumulative requirements for external financing.

The managerial capitalism explanation for the Pecking Order Theory is built on the notion that corporations are run by professional managers who act as agents for the firms' owners (shareholders). According to this theory, managers avoid using external financing sources because doing so would subject them to the discipline of the marketplace. Thus, this rationale for Pecking Order Theory is based on a divergence of management decision-making from the goal of maximizing shareholder wealth. This notion garnered little support in financial management literature until the seminal work of Jensen and Meckling (1976) which introduced the concept of agency costs.

In essence, firms observe financing mix, according to Pecking Order Theory, which is an historical artifact reflecting its profitability, dividend policy and investment opportunities. Other studies relating to agency costs, moral hazards and asymmetric information appear to be broadly consistent with Pecking Order Theory (Fazzari et al., 1988; Myers and Majluf, 1984; Myers 1977, 1984 and 1985). Where the trade-off theory explains observed corporate debt levels fairly well, the Pecking Order Theory offers a far superior explanation for observed capital structure changes, especially those linking security issues.

Transaction Costs and Asymmetric Information

The second rationale for the Pecking Order Theory is consistent with the notion of maximizing shareholder wealth. It is based on the differences in flotation or issue costs associated with the retention of earnings and issuance of debt versus equity securities in its simplest form. Superficially, it can be observed that the retention of earnings does not require the incurrence of flotation costs associated with the sale of a primary issue of securities (either debt or equity). The difference between

bonds' flotation costs and stocks' lies in the fine distinction of the transaction costs associated with debt and equity. One rationale that explains the differences in issue costs for debt and equity relates to the costs' attendant to the problem of moral hazard that arises where information set available to the firm's management is superior to that available to outside investors. This situation is referred to as asymmetric information. Although the implications of information asymmetry for the firm's financing decisions has not been fully explored, it has provided the basis for a growing body of financial literature that gives some useful insights on this topic.

Leland and Pyle (1977) hold that the firm's management has access to inside information about the firm's financial prospects that is superior to outsiders. Thus, if management acts in the best interests of the firm's owners, it will offer to sell new equity shares only when it feels that their market price is favorable to the existing owners. This implies that management will issue common stock only when they feel that shares' value based on the firm's financial worth is less than or equal to their actual current market value. On the contrary, if management thinks the firm's shares are undervalued, it will not issue new stock. Now consider investors' reaction to the announced issue of common shares. If they feel that the firm is maximizing owner wealth, they will view the new stock issue as a 'signal' that the firm's share are overvalued in the marketplace. Next, consider the 'signal' provided by the firm's decision to issue bonds. In this scenario, management's decision to issue debt could be explained as a sign that, based on its inside information, it believes the shares are undervalued. Ross (1977) developed a theory of capital structure based on this description of the manager/firm financing

decision. The preference for internal equity financing is consistent with asymmetric information hypothesis in that managers interest to maximize owners' wealth will retain earnings only when doing so will further that goal. The important aspect is that the presence of asymmetric information, combined with a shareholder-wealth maximizing management team, establishes a preference for debt over equity financing, which completes the Pecking Order story - that is, internal equity financing is preferred over external equity or debt and debt is preferred to equity when external financing is utilized. Myers and Majluf (1984) suggest yet another cost of relying on external financing that is consistent with the Pecking Order Theory. They hold that asymmetric information creates the possibility that the firm will opt not to issue debt or equity and, therefore, pass a positive net present value project. However, the opportunity loss of the positive net present value project is avoided where internally generated funds are used. Myers and Majluf suggest that where the projects' NPV is sufficiently positive to persuade the firm to issue outside securities, the firm will issue the 'safest' security, that is, debt. The rationale here is that this security is the one whose market value will change the least. Thus, Myers and Majluf offer another rationale of the preference of debt over equity which is consistent with the Pecking Order Theory.

Agency Costs and Capital Structure

An agency cost theory of capital structure is put forward by Jensen and Meckling (1976). They further support for the preference for internal over external financing. These theories used the agency costs incurred for corporate form of organization to argue for an optimal mix of internal and external financing. If we consider the situation where the firm's owner is also the manager, the owner bears the full costs

and benefits associated with his / her actions. However, if we consider that the firm utilizes external financing, that is, debt or equity, where the firm utilizes 50 percent finance by the owner-manager and 50 percent by a combination of debt and equity from outside investors, the owner-manager can consume perks and realize 100 percent of the benefits but need to bear only 50 percent of their cost. Owners will certainly attempt to monitor agents' behavior, but since monitoring is both costly and imperfect, some perk consumption is inevitable. The consideration here is that the higher the proportion of external financing, the greater will be the manager's incentive to engage in perk consumption. Thus, based on this line of reasoning it can be argued that there will exist a trade-off between the benefits of utilizing external financing and the added costs of agency attendant to the increased reliance on such sources (Martin et. al, 1988).

In recent years, the notion of the firm has undergone a radical change. Instead of considering the firm as a monolithic whole where the management pursue the sole objective of shareholders' wealth maximization, the firm is viewed as a contractual relationship between shareholders, bondholders and management. The agency theory examines this contractual relationship under the assumption that the parties maximize their own personal welfare, and is capable of forming unbiased expectations regarding the conflict of interest and its impact on their wealth.

The agency cost has two components- i) cost associated with equity and ii) cost associated with debt. According to Jensen and Meckling (1976), the agency cost associated with debt are:

i) The opportunity wealth loss caused by the impact on the investment decision of the firm;

- ii) The monitoring and bonding expenditures by the bondholders and the owner manager i.e., the firm;
- iii) The bankruptcy and reorganization costs.

Partial ownership of the firm by owner-manager may provide an incentive to consume perquisites beyond which a sole owner would consume optimally. This follows from the owner-manager being able to enjoy the perks exclusively, while the partial owner has an increase in the value of the firm with other co-owners. These other co-owners anticipate this eventually and reduce the price at which they are willing to buy securities in such a firm. The owner-manager, thus, has to bear the full cost of such anticipated action. The owner-manager who resorts to outside equity, therefore, is left with a bundle of perks and money wealth which is sub-optimal. The loss of welfare due to sub-optimal situation is the agency cost associated with equity.

The existence of debt financing under limited liability provides a strong incentive to the owner-manager (stockholder) to engage in investment activities which promises high payoffs if successful, even though these activities might have very low profitability of success. If the investment activity turns out well, then the owner-manager reaps most of the gains. If it turns out bad, then the bondholders bear most of the cost. As creditors can foresee this possibility they appropriately discount their willingness to pay for the bonds. Hence, the increased cost of debt due to incentive effects contributes to the agency cost associated with debt.

Myers (1977) draws attention to another problem falling in the same category. For an unlevered firm, the investment decision criterion is to accept projects with positive NPV. However, given outstanding debt, stockholders maximize their

wealth by accepting projects only if its market value exceeds the debt obligation. Otherwise, it is in their best interest to default. Rational bondholders would recognize the increased probability of default on their claims and discount it in the price they offer, thereby increasing the cost of debt.

In principle it would be possible to reduce the agency cost arising due to uncertainty on the part of managerial behavior by including various covenants in the indenture provision, limiting the managerial behavior. Provisions like constraints on dividends, future debt issue, sinking fund etc. are not uncommon, but to completely protect the bondholders from the incentive effects one would require incredibly detailed provisions covering most operating aspects of the firm. The cost involved in writing such detailed provisions, and enforcing them, along with the reduced profitability of the firm (induced by provisions limiting the management's ability to take optimal action on certain issues), would be non-trivial and referred to as monitoring cost.

Another component of the agency cost associated with debt is bankruptcy and reorganization cost. Bankruptcy occurs when the firm cannot meet a current payment on debt obligation or some indenture providing for bankruptcy that are violated by the firm. In such an event the stockholders lose their claim on the firm and the firm is taken over by the bondholders. If there were no costs associated with the event of bankruptcy, then the total market value of the firm would not be affected by increasing probability of its occurrence. However, in practice, bankruptcy cost is costly; it generally involves adjudication process which itself consumes a fraction of the remaining value of the assets of the firm. Thus, the cost of bankruptcy concerns all the potential buyers of the fixed claims in a firm.

Hence, the price offered by the bondholder would take proper account of the possibility of bankruptcy. Their willingness to pay for a bond would be inversely related to the probability of bankruptcy.

There also exists agency costs due to informational asymmetry. The management may know the nature of a project but in the absence of such information with the market, the latter proceeds on the assumption of worst scenario. If the management tries to inform the market, then it incurs additional cost. On the other hand, if it raises finances in the absence of correct and full information, it receives reduced price for its bond and securities (Metha, 1988).

Jensen and Meckling (1976) suggest that, given increasing agency costs with higher proportions of equity on the one hand, and higher proportions of debt on the other, there is an optimal combination of outside debt and equity that will be chosen because it minimizes total agency costs. In this way, it is possible to argue for the existence of an optimal capital structure even in a world without taxes or bankruptcy costs. With the existence of agency costs, it is conceivable that different costs are associated with raising different amounts of debt and equity. It may be possible to find an optimal debt equity ratio for a firm. From the discussion presented earlier, it appears that the agency cost related to debt would be an increasing function of debt; on the other hand, the agency cost related to equity would decline with increase in debt. As the total agency cost is sum of both the costs, the curve of total agency cost must be U shaped (Figure-2.4). In that case, the optimal capital structure that exists is E^* .

Figure – 2.4
Fraction of Outside Financing Obtained from Equity

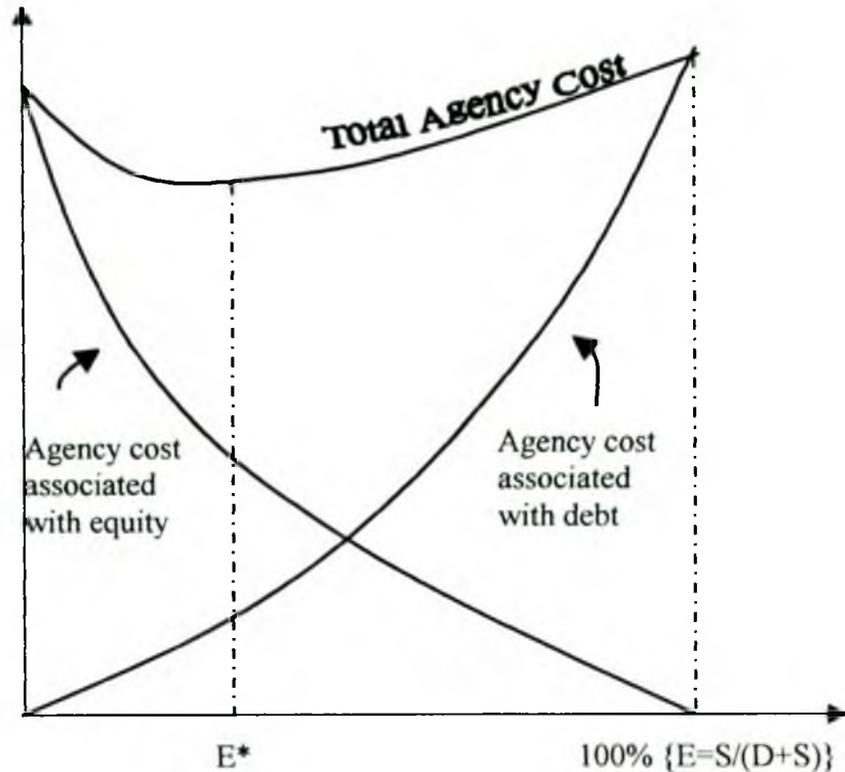


Figure-2.4 illustrates the Jensen-Meckling argument for an optimal capital structure based on agency costs of external equity and debt (in a world without taxes). Agency costs of external equity are assumed to decrease as the percentage of external equity decreases, and the agency costs of debt are assumed to increase. The above figure illustrates a case where total agency costs are minimized with an optimal capital structure between 0% and 100%. It might be noted that an interior optimal debt-equity ratio, as depicted in the figure that exists only under certain conditions. That is, one of the curves is increasing, (increasing marginal cost) while other one is decreasing (decreasing marginal cost) and the sum of the two

curves is a U shaped curve. This fails to work, interestingly, when the sum of these two curves results in a horizontal line. Such a situation takes us back to M-M's irrelevancy proposition.

The above discussion suggests that the agency costs exist and should be considered in determining optimal capital structure. However, it has proved nearly impossible to estimate agency costs. In the absence of empirical evidence we can only speculate about the shape of the total agency cost curve. Hence, the controversy started by M-M remains unsettled.

Observed Capital Structure Patterns

Capital structure is a difficult issue for empirical test. Often, changes in capital structure are made simultaneously with new investment decisions, thus making it nearly impossible to separate financial impact on firm value from the effect of investment decision. Moreover, capital structure is difficult to measure. For most of the cases, the empirical literature on capital structure and the cost of capital has focused on the theory provided by Modigliani and Miller (1958, 1963). The issue is whether or not the value of the firm can be changed by changing its capital structure. This may seem to be a relatively straightforward question, but the empirical testing is difficult and complex. It is difficult to get good market value data for publicly held debt but nearly impossible to obtain data on privately held debt. Moreover, the liabilities of the firm (including subsidiary obligations) include leasing contracts, pension liabilities, deferred compensation to management and employees, performance guarantees, convertible debt, and convertible preferred stock. Keeping in view of the above difficulties let us take a look at some of the

empirical evidence that reveals about the way that capital structure affects the value of the firm (Copeland and Weston, 1992).

There are two broad approaches to empirical tests of capital structure: the first broad approach are cross-sectional studies that attempt to explain observed financial leverage as a function of firm's tax rate, non-debt tax shields, potential for agency and bankruptcy costs, operating leverage, systematic risk etc. The incremental impact of each of these variables on financial leverage can help to separate the competing theories of optimal capital structure. The second one is time series data that looks at the relationship between changes in leverage and simultaneous changes in the value of debt and equity on the announcement date of leverage-changing event.

Modigliani and Miller (1958) themselves have supported their claim with empirical evidences. They examined US oil and electric utility companies and found the effect of the debt equity ratio on company value to be insignificantly different from zero, thus supporting their basic model. Weston (1963) criticized this finding on two principal grounds. The first was that the basic M-M analysis assumes constant earnings which means that, in testing the model, some explicit allowance must be made for unequal income. His second major criticism was that in reality the costs of issuing debt is not zero and these costs are typically higher for smaller than larger firms. Weston reestimated the relation between debt and value and included measures of size and earnings growth, and found that the capital structure term was significantly greater than zero.

Barges (1963) supported the traditional conception of a saucer-shaped overall cost of capital curve which could be minimized. Using book values instead of

market values for the weighting factors and ignoring any growth, he found that the average overall cost of capital in his regression first rose and then declined as the ratio of long-term debt to total permanent capital increased for class 1 rail roads.

Brigham and Gordon (1968) used a slightly different model to test the behavior of the cost of equity capital over the range of financial leverage. Using 69 utility stocks from 1958-1962, Brigham and Gordon found that the cost of equity as measured by the current dividend yield rose as the degree of financial leverage rose, but that the implied slope was insufficient to maintain a constant overall cost of capital and that the traditional saucer-shaped K_0 function (capitalization rate) was supported. Hamada (1972) tested the Modigliani and Miller theory using CAPM to adjust the different risk characteristics of the firms in his sample. His findings gave support to Modigliani and Miller model in which he found the cost of equity to be an increasing function of leverage, as predicted by M-M.

Many empirical studies of debt ratios test the relationship of capital structure and firm specific variables e.g., firm size, industry, growth rate and profitability. Some previous studies have attempted to determine the influence of firm size on debt ratios. According to Gordon (1962) leverage increases with size (measured as total assets), whereas Gupta (1969) finds that financial leverage decreases as size increases, using the same proxy as Gordon (1962). Most studies, including Toy et al. (1974) and Ferri and Jones (1979) have found no simple linear relationship. Gupta (1969) also depicts that large companies have long term-debt and small companies have more short-term debt. This result implies that size differences reflect different abilities to access capital markets, the impact of floatation cost,

bankruptcy cost, agency cost differentials, asset composition risk and age (Marsh, 1982).

According to Vanhorne (1983), firms with a high proportion of long-term assets should expect to use proportionately more long-term financing. However, Ferri and Jones (1979) find a negative correlation between long-term assets and total debt. Other studies provide evidence that firms attempt to balance operating leverage and financial leverage. Stonehill et al. (1975), in an international survey, indicate that executives rank "liquidity of assets" as a high determinant of debt ratio.

Several other studies have ascertained significant industry effects in debt ratios. These studies include Gupta (1969), Scott (1972), Scott and Martin (1975), and Ferri and Jones (1979). Marsh (1982) points out that industry differences could merely be a reflection of systematic differences in asset composition, risk and rate of industry growth.

Bradley et al. (1984), Long and Malitz (1985) and Titman and Wessels (1988) have done work on cross-sectional analysis of capital structure. Bradley et al. (1984) regressed leverage against earnings volatility as a proxy for bankruptcy risk, the ratio of depreciation plus investment tax credits to earnings as a proxy for non-debt tax shields, and the ratio of advertising plus research and development expenditures to net sales as a proxy for noncollateralizable assets. The first and third variables were significantly negative, supporting the importance of bankruptcy costs and collateral, but the second variable was significantly positive, seeming to be inconsistent with debt as a tax shield. Long and Malitz (1985) estimate a similar regression but add a number of additional variables. They get results similar to Bradley, Jarrell, and Kim but find non-debt tax shields to be

negatively related to leverage. On the other hand, Titman and Wessels (1988) employ linear structural modeling to explicitly accommodate explanatory variables as proxies for their theoretical counterparts. Their results reveal that asset uniqueness and profitability were significantly negatively related to leverage. This result supports the Pecking Order Theory of Myers and Majluf (1984) as more profitable firms will be inclined to use less external financing. It also supports the Titman (1984) idea that firms with unique assets can carry less debt owing to agency costs.

Cordes and Sheffrin (1983) use Treasury Department data to examine cross-sectional differences in effective tax rates that may be caused by tax carry-backs and carry-forwards, by foreign tax credits, by investment tax credits, by altering tax on capital gains, and by minimum tax. They found significant differences across industries with the highest effective rate for tobacco manufacturing and the lowest rate for transportation and agriculture. This tends to support the DeAngelo-Masulis (1980) contention that the gain from leverage-induced tax shields can be positive.

There are a number of cross-sectional analyses using international data which provide direct evidence on the determination of debt ratio which include American studies by Scott (1976), Carleton and Silberman (1977) and Ferri and Jones (1979), British studies by Brealey et al. (1976) and two international studies by Stonehill et al. (1975) and Toy et al. (1974) for Japan and the USA. The combined evidence broadly support the view that at least three variables should be important which are operating leverage, company size and asset composition. Studies by Ferri and

Jones (1979), Scott (1976) and Scott and Martin (1975) have found significant industry effect in five Asian countries excluding Japan.

Capital Structure patterns of Japanese and Bangladeshi Firms

After examining capital structure theory an attempt is made to elucidate the development of the capital structure of Japanese and Bangladeshi firms. Leverage measures are calculated for reporting non-financial companies' consolidated balance sheets of 1994 and 2000. Financial cross-section data are obtained for the period 1994 for both Japanese and Bangladeshi firms. The sample consists of 50 Japanese firms and 30 Bangladeshi firms. For the year 2000 the sample consists of 100 Japanese firms and 50 Bangladeshi firms. All the firms have traded stock publicly and have financial data available for at least six years. All the Japanese firms have publicly traded on the "First Section" of Tokyo Stock Exchange. All Bangladeshi firms have publicly traded on Dhaka Stock Exchange. The data for the Japanese firms are obtained from the Financial Disclosure Reports (*Yuka Shoken Hokokuso*) published by the Ministry of Finance (*Okurasho*) and Japan Company Hand Book published by *Toyo Keizai Inc.* The data sources for the Bangladeshi firms are collected from the "Annual Reports" of the individual firms. The distribution of samples for Japanese and Bangladeshi firms across the industrial categories is given in Tables-2.1 and 2.2. Table-2.3 provides definitions of all the variables in the study. Aggregate ratios are obtained by summing up numerator across all reporting firms in the country and divided by the denominator summed across the same firms.

Table – 2.1
Industry Representation
(Japanese Firms)

Industry	Number of Firms (1989-1994)	Number of Firms (1995-2000)
Construction	2	4
Food	2	4
Drug	2	4
Textiles	2	4
Paper and Pulp	2	4
Chemicals	6	12
Oil and Coal	2	4
Rubber	2	4
Glass and Ceramics	2	4
Iron and Steel	4	8
Non-Ferrous Metals	2	4
Metal Products	2	4
Machinery	6	12
Electric Appliances	4	8
Transport Equipment	2	4
Precision Machinery	6	12
Miscellaneous Manufacturing	2	4
Total	50	100

Table – 2.2
Industry Representation
(Bangladeshi Firms)

Industry	Number of Firms (1989-1994)	Number of Firms (1995-2000)
Engineering	5	9
Food and Allied	4	8
Fuel and Power	2	4
Textiles	5	7
Pharmaceuticals and Chemicals	5	7
Paper and Printing	2	3
Jute	4	4
Miscellaneous	3	8
Total	30	50

Table – 2.3

Variable Definitions

Variables	Proxy Definition
Debt to Capital	Book value of debt divided by the sum of the book value of debt and equity
Debt to Net Assets	Book value of debt divided by net assets where net assets is assets minus accounts payables and other current liabilities
EBIT to Interest	Earnings before Interest and Taxes divided by Interest
EBITDA to Interest	Earnings before interest, taxes and depreciation divided by interest

Table – 2.4

Leverage Measures for Publicly traded Firms in Japan and Bangladesh (1989-1994)

Country	Debt to Capital Medians (Means) Aggregate	Debt to Net Assets Medians (Means) Aggregate	Interest Coverage Ratio Medians Aggregate	
			<u>EBIT/Interest</u>	<u>EBITDA/Interest</u>
Japan	0.67 (0.64)	0.72 (0.68)	2.44	8.42
	0.70	0.73	2.98	7.52
Bangladesh	0.61 (0.63)	0.69 (0.67)	1.05	2.46
	0.67	0.66	3.31	4.37

Table – 2.5

Leverage Measures for Publicly traded Firms in Japan and Bangladesh (1995-2000)

Country	Debt to Capital Medians (Means) Aggregate	Debt to Net Assets Medians (Means) Aggregate	Interest Coverage Ratio Medians Aggregate	
			<u>EBIT/Interest</u>	<u>EBITDA/Interest</u>
Japan	0.68 (0.64)	0.73 (0.68)	2.43	8.52
	0.71	0.74	2.88	6.92
Bangladesh	0.62 (0.64)	0.68 (0.67)	1.25	2.65
	0.68	0.66	4.25	5.65

Table-2.4 and Table 2.5 depict the capital structure measures of the Japanese and Bangladeshi firms for the period 1989-1994 and 1995-2000. It appears that these two countries show different approaches to the employment of debt, use of net assets and interest coverage ratios. The aggregate measure of debt to capital of the Japanese firms is higher compared to their Bangladeshi counterpart. Same trend is observed with respect to net assets; the medians and aggregate ratios are higher in Japan. Interest coverage ratios are also different for these two countries. There appears to be substantial differences in the borrowing practices between the two countries. Not only are the average debt equity ratios somewhat higher for Japanese corporations, but also they are extraordinarily high for some corporations compared to Bangladesh. Furthermore, the maturity composition of this debt, as well as the role played by the financial institutions, has been quite different for Japanese borrowers. These differences in the capital structure behaviors are expected. Japanese firms operating in a developed capital market with unique institutional and financial system can deploy more debt. Close monitoring and constant support from financial institutions and banks help the Japanese firms to borrow more. They do not need to worry about corporate failure. It is suggested that corporate bankruptcies are small in Japan compared to other developed countries. Bangladeshi firms on the other hand do not get the benefits from the financial system, which is available in Japan. Although Bangladeshi firms employ more debt but they do not get constant support from the banks and other financial institutions like Japan. Close tie between bank and corporation is absent in Bangladesh. Moreover, underdeveloped stages of capital market restrict them for collecting funds by issuing securities in the stock market. In Japan, crossholding of

shares minimizes agency cost to a great extent. Thus, it advocates the deployment of more debt in the capital structure. Another cogent reason for employing high level of debt by the Japanese firms rest on the low level of cost of capital compared to the Bangladeshi firms.

Table – 2.6
Leverage Measures of Publicly Traded Firms In the G-7 Countries, 1991

Country	Debt to Capital Medians (Means) Aggregate	Debt to Net Assets Medians (Means) Aggregate	Interest Coverage Ratio Medians Aggregate	
			EBIT/Interest	EBITDA/Interest
U.S.A.	0.37 (0.37)	0.34 (0.38)	2.41	4.05
	0.53	0.44	2.19	3.66
Japan	0.53 (0.52)	0.48 (0.35)	2.46	4.66
	0.63	0.58	2.20	3.71
Germany	0.38 (0.39)	0.21 (0.25)	3.20	6.81
	0.39	0.19	3.29	6.74
France	0.48 (0.46)	0.39 (0.39)	2.64	4.35
	0.57	0.43	2.15	3.47
Italy	0.47 (0.46)	0.38 (0.38)	1.81	3.24
	0.53	0.43	1.55	2.62
U.K.	0.28 (0.29)	0.26 (0.31)	4.79	6.44
	0.34)	0.32	3.98	5.29
Canada	0.39 (0.39)	0.37 (0.39)	1.55	3.05
	0.50	0.44	1.19	2.55

Source: Rajan and Zingales (1995)

It is revealed from Table – 2.6 that among the industrialist countries, American, English, German and Canadian companies have lower average debt ratios than their counterparts in Japan, France and Italy. There are also differences in respect to debt to net assets ratio and also for the interest coverage ratios. The reasons for these variations may rest on the fact that in developed countries some industries are characterized by high debt equity ratios (utilities, transportation companies, and mature, capital intensive firms), while other industries utilize little or no long-term

debt financing such as service firms, mining companies and most rapidly growing companies. This behavior suggests that industry's asset mix, variability in its operating environment significantly influence the actual capital structure chosen by firms. However, the exact reasons for these differences are unclear, but historical, institutional and cultural factors probably play a role, as does a nation's reliance on capital market versus banks for corporate financing. Both across industries and across countries, the larger the perceived costs of bankruptcy and financial distress, the less debt will be used. In countries such as Japan, where banks play dominant roles in corporate finance and bankruptcy laws strongly favors creditors over debtors, healthy companies routinely operate with leverage ratio that would be considered too high compared to American firms (Prowse, 1990, 1992; Kester, 1992 and Berglof and Perotti, 1994). Moreover, some industries seem able to tolerate higher leverage ratios than others because they can pass through financial distress or even bankruptcy with relatively little dead weight loss in economic value in the presence of their unique financial system which is not the characteristic features of other countries.

Additional insights can be given regarding the capital structure patterns of Bangladeshi firms by considering the ratio of new equity financing to national savings. It is suggested that the equity market has not been able to provide a strong alternative to the banking and various government savings schemes for mobilization of funds for the periods 1985 to 1993 in spite of adoption of various measures including tax incentives favoring the development of equity financing. The contribution of the equity markets to financial development represented by the

ratio of new issues to gross investment for a period of 8 years from 1985-86 to 1992-93 has been insignificant.

Much of the market constraint is associated with the overall development of the country and hence investment in equities is likely to continue to be more risky for many potential investors with pronounced risk aversion attitudes. The increase in various government bond and bank deposits has taken place while their respective yield was falling. The rate of interest was 14 to 16 percent in 1990, and had dropped to 6 to 12 percent in 1995. The attitude behind such a trend cannot be explained in terms of irrationality on the part of the general investors, rather in terms of enunciated risk aversion. In the presence of forceful structural, legal and other limitations, measures aiming at increasing the relative contribution of equities will most likely be of insignificant use. Under these situations equity markets are likely to be restrained in the way of rapid development. Accordingly, the transformation of short-term deposits into long-term debts meets up the needs of the enterprises requiring funds.

On the contrary, corporate financing in Japan is distinguished from that of other developed countries by a high ratio of borrowings from the banking system. The average net worth ratios of Japanese firms (excluding financial institutions and insurance companies) stood at 19.3 percent at the end of fiscal year 1991 which was far less than those of the US (40.1 percent), UK (44.2 percent) and Germany (57.3 percent). Their ratio of capital to total assets was at a low level of about 4.9 percent. Even if bond financing is added to this, the average net worth ratios of Japanese firms stood at 23.8 percent in the fiscal year 1991 (Japan Securities and Research Institute, 1994). Aoki (1984a) suggested some rationale for the relatively

high debt position of Japanese firms. His arguments basically had two parts. First, financial institutions were able to extract substantial rents via spread between interest rates for investors and effective lending rates to firms. Second, banks were able to use their positions as both lender and shareholder to induce greater corporate borrowing than would have been preferred by individual shareholders. Much of the discussion on the capital structure differences between Japan and other countries has focused on overall debt equity ratios, with several authors attempting to provide an economic rationale for greater borrowing propensity of Japanese firms. Moreover, other authors have suggested that the generally higher debt equity ratios of Japanese firms result in lower overall cost of capital and a consequent competitive advantage relative to other countries.

Cost of Capital and its Implication

A firm's sources of finance are not free because the investors anticipate a return on their funds. This return is a cost to the firm that the financial manager needs to cover in order to maintain the value of the firm. Thus, the cost of capital may be defined, as the rate of return a company must earn on an investment, which is sufficient to maintain the value of the firm or expectations of the investors. An investment that earns a return above the cost of capital will increase the value of the firm. On the other hand, if a firm earns a return below cost of capital it will reduce the value of the firm.

The asset portfolio of a firm is bought through the use of funds. There are many ways in which a firm can raise funds for investments. Generally, these funds are acquired either internally, as with retained earnings, or externally by selling

financial claims. The possible external sources are the issue of new equity capital (shares) and the issue of debt (debenture). The basic difference between the two is that debt is secured so that debtholders have a prior claim on the assets of the company which, in the event of bankruptcy, must be satisfied before the ownership interest of shareholders. In addition, the company must pay fixed regular interest payments on debt. In contrast, equityholders have a residual claim on the firm and their income from dividend is variable. Debt, therefore, seems to be less risky than equity. Because of this, the rate of return required by equity holders is greater than that of debtholders. The existence of different rates of return raises the possibility that there may be an optimal way of financing investment by issuing debt and equity (Chowdhury, 1992).

For the capital structure decision the determination of the cost of capital for any specific source is closely related to investors' valuation process. Different models have been developed so far for this purpose. Most notable among these are the models of Ezra Solomon, Myron J. Gordon and Modigliani and Miller and the Capital Asset Pricing Model (CAPM). These models are used to determine the cost of capital for specific sources.

The cash earnings associated with debt and preferred stock are fixed and relatively certain. But the cash flow related to common stock has none of these characteristics. Common stockholders as residual owners bear the ultimate risk of loss or gain and their earnings depend on the firm's after tax earnings and the dividend decision of the firm. Thus, the amount and even the existence of dividend is subject to varying degree of uncertainty.

The cost of equity is defined as the minimum rate of return required by the shareholders or the minimum rate of return that a company must earn on investment to leave the current share price unchanged. The cost of equity is considered as a function of three elements: a) the riskless rate of interest, b) business risk and c) the financial risk.

The riskless rate is the compensation to shareholders for giving up the money for a period of time. The principle is that an investor investing his money for a period of time will require a minimum return before any risk is considered. Present one dollar is worth more than one dollar after one year. Thus, the time value of money is the central theme of the riskless rate.

Business risk is considered as another important element in a firm's cost of capital. The risk asserts that earnings will be volatile due to changes in the firm's market, the industry and the economy. Let us consider mining company. Fund invested in exploration may not yield sufficient return to justify commercial development. Such risks appear formidable and are embraced by the concept of business risk. An investor in such a situation should require a risk premium compared to fixed interest securities. On the contrary, financial risk refers to the additional variability in a company's earnings per share that results from the use of fixed cost sources of funds, such as debt and preferred stock. In addition, the financial risk premium includes a premium to compensate for the increased potential risk of bankruptcy that arises from the use of debt financing.

Earning approach and dividend approach are the two main methods of estimating the cost of common stock for capital structure decision. The earnings approach relates the cost of common stock funds to the anticipated future earnings

per share of common stock. While the dividend approach relates the cost of common shares to dividends on the basis of dividends including gain from sale on the expected future dividends to which the stockholder has access. On the other hand, the dividend approach relates the cost of common shares to dividends on the basis of dividends including gain from sale on the expected future dividends to which the stockholder has access.

There exists no unified rule about which approach is more appropriate. The available literature suggests that, the earnings approach may be appropriate in case of growth companies, where as, the dividend approach is more suitable for companies whose rate of growth is constant. A growth company is characterized by low dividend pay out ratio and whose earnings are growing rapidly. By contrast a stable earning company is one whose earnings are relatively stable.

The determination of the cost of debt requires: a) using effective cost rather than nominal cost and b) adjusting the effective rate to recognize the fact that interest is deductible for tax purposes. The cost of debt is considered as the rate of return that must be earned by projects financed by debt to maintain the wealth of firm's owners. The rate will be at least as great as the rate of interest charged, but sometimes it may be greater to account for additional risk placed for common shareholders. This risk arises from the fact that the firm is acquiring certain obligations to pay interest on its borrowed capital. The cost of debt or of a bond is the interest paid and is normally termed as coupon. The cost of debt is affected by maturity dates and the frequency of interest payments. This rate is explicit or direct cost of debt. Thus, the cost of capital used in designing capital structure and capital investment project would be the required rate of return on equity. However, most

firms employ different types of capital, and due to differences in risk, these different securities have different required rates of return. The required rate of return on each capital is called its component cost, and the cost of capital used to analyze and design capital structure and investment decisions would be a weighted average of the various components' cost. It is widely known as the weighted average cost of capital.

Cost of Capital of Japanese and Bangladeshi Firms

One of the most discussed issues in the capital structure decision is the cost of capital, which influence the capital structure choice. The discussion on the capital structure position of Japanese and Bangladeshi firms have identified major differences in respect of the use of debt / equity mix. Based on this background focus will be given to shed light on the cost of capital behavior of these two countries. Financial cross-section data are obtained for the year 1994 and 2000 for both Japanese and Bangladeshi firms. The sample consists of 50 Japanese firms and 30 Bangladeshi firms for the year 1994 and 100 Japanese firms and 50 Bangladeshi firms for the year 2000. All the firms have traded stock publicly and have financial data available for at least six years. All the Japanese firms have publicly traded on the "First Section" of Tokyo Stock Exchange. All Bangladeshi firms have publicly traded on Dhaka Stock Exchange. The data for the Japanese firms are obtained from the Financial Disclosure Reports (*Yuka Shoken Hokokuso*) published by the Ministry of Finance and Japan Company Hand Book published by *Toyo Keizai Inc.*

The cost of capital may be considered as the rate of return a company must earn on an investment, which is sufficient to maintain the value of the firm or expectations of the investors. An investment that earns a return above the cost of capital will increase the value of the firm. On the other hand, if a firm earns a return below cost of capital it will reduce the value of the firm. Thus, cost of capital reflects the minimum profitability (or return) expected by the suppliers of debt and equity capital. Table-2.7 compares the profitability of Japan and Bangladesh for the year 1994 and 2000. For eliminating discrepancies in the calculation of profitability in respect of tax rate and depreciation methods the comparisons are made at four levels of income statement: after-tax profit margin, pre-tax profit margin, operating profit margin and operating cash flow margin (measured by the sum of profit plus depreciation as a percentage of sales). It is revealed that the profitability of Japanese companies is noticeably lower than that of Bangladeshi companies. The Japanese firms' average after-tax return on equity is 9.21 percent compared to 14.69 percent for Bangladeshi firms for the year 1994. It reaches to 9.10 percent for Japanese firms and 13.65 percent for Bangladeshi firms in the year 2000. As for pre-tax return on equity Japanese firms show 15.58 percent in contrast to 20.17 percent for Bangladeshi firms for the year 1994. Same trend is observed in 2000 where the percentage is 14.70 and 18.30 for Japanese and Bangladeshi firms respectively. These facts suggest that there exist significant differences in respect to the profitability between these two countries. For better insights into the issue Table- 2.8 may be considered. It is observed from Table –

2.8 that for both the measures of after-tax and pre-tax return on equity the Japanese companies' returns are considerably lower than that of the American companies.

Table- 2.7

Financial Performance of Japanese and Bangladeshi Firms (Percent)

Profitability Measure	Japan		Bangladesh	
	(1994)	(2000)	(1994)	(2000)
Operating Margin	5.47	5.20	10.43	5.05
(Operating Income + Depreciation)/Sales	7.68	8.35	17.62	12.59
Pretax Income /Sales	3.23	2.84	5.55	3.34
Net Income/Sales	2.53	1.70	7.60	2.68
Return on Equity				
Before Tax	15.58	14.70	20.17	18.30
After Tax	9.21	9.10	14.69	13.65

Table-2.8

Financial Performance of Large Japanese and the US Industrial Companies (Percent)

Profitability Measure	Japan		USA
	NRI 350	Excl. 10 Trading Companies	S & P Industries
Operating Margin	3.2	5.2	9.8
(Operating Income + Depreciation)/Sales	5.0	8.2	13.5
Pretax Income /Sales	2.8	4.6	8.0
Net Income/Sales	1.3	2.2	4.5
Return on Equity			
Before Tax	18.2	18.5	24.5
After Tax	8.5	8.6	13.9

Note: Average for 1980-1988 reporting years

Sources: Japan: Nomura Research Institute (1990) NRI Handbook, Tokyo
 United States: Standard and Poor's Corporation (1990), Standard and Poor's Analyst's Handbook, New York
 Adopted from: Ide, 1996

The weighted average cost of capital of Japanese and Bangladeshi firms have been calculated for the year 1994 and 2000. For the calculation purpose interest rate on debt is set at 7 percent for Japanese corporations and 12 percent for Bangladeshi corporations. The debt / equity of Japanese corporations is set at 70:30 and 50:50 for Bangladeshi firms. It is observed from Table-2.9 that the weighted average cost of capital of Japanese corporations are 9.57 percent and 16.08 percent for Bangladeshi corporations for the year 1994 and 9.31 percent for Japanese firms and 15.15 percent for Bangladeshi firms for the year 2000. It reflects that Japanese firms are in advantageous position having lower cost of capital over Bangladeshi firms. In Bangladesh, the cost of capital is almost 1.68 times more than that of Japan. Comparing the results with previous studies Table-2.10 gives a comparison of cost of capital and profitability of the American and Japanese firms which reveals that the US cost of capital is almost 1.6 times more than that of Japan. Thus, our result is consistent with that of the US cost of capital phenomena. This difference may be attributed to the large portion of equity in the capital structure. This added advantage in the cost of capital of Japanese corporations will provide different benefits in the operation of their business --- such as, lowering the selling price, absorbing high cost of importing raw materials, or technologies, offering better quality products, large-scale investment, capturing market share etc. Previous studies also support our findings. McCauley et al. (1989) hold that the weighted average after tax cost of capital of Japanese corporations during 1980s was significantly lower in Japan than in the US. Malkiel (1992) observed that the cost of capital was significantly higher in the US than either in Japan or Germany

Table -2.9
Weighted Average Cost of Capital Japanese and Bangladeshi Firms

	After Tax		Before Tax		Weight	Weighted Average Cost of Capital	
	(%)	(%)	(%)	(%)		(1994)	(2000)
	(1994)	(2000)	(1994)	(2000)		(1994)	(2000)
Japanese Company							
Debt			7.00	7.00	x 0.7 =	4.90	4.90
Equity	9.21	9.10	15.58	14.70	x 0.3 =	<u>4.67</u>	<u>4.41</u>
						9.57	9.31
Bangladeshi Company							
Debt			12.00	12.00	x 0.5 =	6.00	6.00
Equity	14.69	13.65	20.17	18.30	x 0.5 =	<u>10.08</u>	<u>9.15</u>
						16.08	15.15

- Notes: 1. Interest on debt, set at 12 percent for Bangladeshi companies and 7 percent for Japanese companies
 2. Bangladeshi companies assumed to produce 50 percent capital as equity and Japanese companies 30 percent.

Table - 2.10
Weighted Average Cost of Capital of Large Japanese and the US Industrial Firms

	After Tax		Before Tax		Weight	Weighted Average Cost of Capital	
	(%)	(%)	(%)	(%)			
US Company							
Debt			8.0		x 0.5 =	4.00	
Equity	13.9		24.5		x 0.5 =	12.25	16.25
						16.25	
Japanese Company							
Debt			7.0		x 0.7 =	4.90	
Equity	8.5		18.2		x 0.3 =	5.46	10.36
						10.36	

- Notes: 1. Interest on debt, set at 8 percent for US companies and 7 percent for Japanese companies
 2. US companies assumed to produce 50 percent capital as equity and Japanese companies 30 percent

Source: Ide, 1996

during the 1980s. Frankel (1991) found that the cost of capital was lower in Japan compared to their US counterpart during 1970s and 1980s. Hagiwara (1972) lists four factors which are responsible for low equity ratio of Japanese corporations, that is, i) the persistent growth of Japan meant that the financial requirements of industries to expand production facilities were great, neither stock nor the bond market was sufficiently developed to play an important role and the task was left to Japanese banks ii) the pattern of individual savings in Japan has concentrated on savings deposits rather than investment in stocks and bonds iii) because of the corporate tax regulations, the cost of capital on borrowed money, even when the interest rate is as high as 10-11 percent, can be less expensive than cost of equity financing and iv) in the past, the most popular method of raising capital has been the issuance of new share at par with subscription rights to existing shareholders. In spite of the fact that the par value system of raising capital increases a corporation's burden of dividend payment, it does not allow the corporation for accumulation of any capital surplus. Aoki (1984b) suggested a rather different rationale for the relatively high debt ratio of Japanese firms. These are: i) the proportion of account payable ii) absence of accounting inflation iii) wide spread practice of so called *buzimi-ryodate* deposits (compensating balance) and iv) the provision whereby Japanese firms have been allowed to accumulate various nontaxable reserves and to include them under long-term debt. Of course it depends on the discretion of the management. However, the gap narrowed in the 1980s due to the financial deregulation in Japan. It is worthwhile to mention that Japan's advantage in cost of capital was attributed primarily from a very high debt

leverage in the early years. During this period the required return on equity was relatively high because new equity issues were made at par value with a commitment to maintain current dividends per share. However, during the 1980s, many Japanese companies took advantage of very high price / earning ratios to expand their equity base through large new stock issues sold at the market price. This ability to issue new equity at high market prices relative to current earnings became their major source of cost of equity advantage (Ide, 1996).

The theories of the capital structure decision of the firm and cost of relevant components thereof has been considered. It is observed that the role of the financing decision in determining the value of the firm is central to the study of finance and constitutes a significant portion of finance literature. On the contrary, the cost of capital is an elusive and difficult quantity to measure, and its estimation is still a matter of controversy. One of the real difficulties in dealing with the cost of capital lies in the fact that there is as yet no fully satisfactory theoretical model for predicting the impact of changes in the firm's capital structure on cost of capital. Although these theories have identified great many potential determinants of capital structure, the major difficulty is the lack of a widely accepted theoretical framework for research.

The capital structure measures of the Japanese and Bangladeshi firms show that these two countries have different approaches to the employment of debt, use of net assets and interest coverage ratios. The measure of debt to capital of the Japanese firms is higher compared to their Bangladeshi counterpart from different perspectives. There appears to be substantial differences in the borrowing practices between the two countries. In many cases Japanese corporations' debt / equity ratio

is extraordinarily high for some corporations compared to Bangladesh. Japanese firms operating in a developed capital market with unique institutional and financial system can deploy more debt. Close monitoring and constant support from financial institutions and banks help the Japanese firms to borrow more. They do not need to worry about corporate failure. Generally, corporate bankruptcies are small in Japan compared to other developed countries. On the contrary, Bangladeshi firms do not get the benefits from the financial system, which are available in Japan. Close tie between bank and corporation is absent in Bangladesh. When banks and financial institutions are allowed to own both debt and equity stakes in clients firms, observed debt ratios tend to be higher. Japan possessing this characteristic feature shows higher debt ratio compared to Bangladesh. Another well-argued reason for employing high level of debt by the Japanese firms rest on the low level of cost of capital compared to the Bangladeshi firms. The measurement of profitability and the weighted average cost of capital of Japanese and Bangladeshi firms provide some important observations. It is observed that Bangladeshi firms show more profitability at four levels of income statement: after-tax profit margin, pre-tax profit margin, operating profit margin and operating cash flow margin. Moreover, the weighted average cost of capital of Japanese corporations is 9.57 percent and 16.08 percent for Bangladeshi corporations. Japanese firms are in advantageous position having lower cost of capital over Bangladeshi firms. In Bangladesh, the cost of capital is almost 1.68 times more than that of Japan. Previous studies suggest that cost of capital and profitability of the American firms are higher than that of Japanese firms. Here,

additional insight is given for the first time by comparing the Japanese case with a developing country like Bangladesh.

Chapter 3

Agency Problems and Dividend Policies of Japan and Bangladesh

The objective of the firm is to maximize the wealth of the shareholders. Successful investment decisions generate positive net cash flows, which is used either for payments of interest or dividend or for retention within the company to finance new investment. Thus, the important aspect of dividend policy is to determine the earnings to be distributed to the shareholders and the amount to be retained in the firm and a firm's choice of whether to pay its shareholders a cash dividend and if so, how much to pay and with what frequency. Recently, dividend policy has come to include many variables, e.g., whether to distribute cash to investors via share repurchases or specially-designated dividends rather than regular dividends, whether to rely on stock rather than cash distributions, and how to balance the cash flow preferences of highly taxed individuals with those of the institutional investors having tax exemptions. In the face of today's complexity, however the majority firms still have to struggle with the issues that Linter (1956) found to be important for corporate managers i.e., whether firm's dividend payment be maintained at its current level or be changed? If the payment is increased, whether corporate profits remain high enough to uphold it? How will the stock market interpret any changes in the firm's dividend pay out ratio? Do investors prefer a stable dividend policy or it advocates fluctuating dividend policy in line with the changes in the firm's earnings? Finally, whether firm's dividend policy focuses on older investor who prefer a high dividend pay out or younger investors with higher

marginal tax rates and having a longer investment prospect who prefer profits to be invested in the firm rather than being paid out as dividends?

In conjunction with capital structure, dividend policy was one of the first areas of corporate finance to be analyzed with a precise theoretical model, and it has become one of the extensively researched issues in modern finance. Nonetheless, much remains unexplored about the role of cash dividends play in providing information to investors about firm's prospects, how markets value high and low dividend paying stocks, how corporate and personal taxes affect the demand for and supply of cash dividends, how dividends intermingle with other corporate variables, what relationships exist between dividends and agency costs, and why dividend policy diverge for different industries and across countries.

It is observed that the corporate dividend has since a long time bothered financial economists. No unambiguous proposition has been accepted as the solution to the problems concerning dividends. If one is to complete the theory of dividend, answers must be found to the questions posed by managers such as: Why do corporations pay dividends? What determines the payout ratio, and are they consistent with the observation of stable dividends? For investors, solution must be found for the questions: Is the dividend a perfect substitute to the capital gain? Is it reasonable for investors with a demand for current cash to invest in high yield stocks? What information about managers do investors receive from dividend announcement? What are the effects of dividend on the valuation of stock? Investigation of these issues has developed the "dividend puzzle". Throughout the steady development of finance research, the fact that corporations have paid significant amounts of dividends has stimulated a number of theoretical and

empirical studies, and those studies have contributed a lot to our understanding of various aspects of dividend.

Theoretical Models

It is very tough to envisage a single theoretical model that can explain all the issues relating to dividend. Nonetheless, finance theorists have developed internally consistent theoretical models for explaining these issues, each of which will be discussed here in turn.

Miller and Modigliani's Dividend Irrelevance

Since the publication of Miller and Modigliani's 1961 paper, dividend policy has been a controversial topic in the literature of finance. While the traditional schools of dividend (Cottle et al., 1962) argue that the choice of dividend policy affects the share price and value of the firm, because investors prefer current, certain return in the form of dividends to uncertain prospects of future dividends and they are willing to pay more for high yield securities to low yield ones, Miller and Modigliani dealing with a world without taxes and transaction costs hold that the value of the firm was not determined by the amount of dividends paid, but rather by the earning power of the projects in which the firm invested its money. Investors should be indifferent towards returns distributed in the form of dividends or capital gains and the value of the firm is solely based on earnings' power of its assets, and the way the earning stream is divided is not of much significance. The argument used by M-M to support this assumption is referred to as the clientele effect, which asserts that a firm will attract shareholders whose preferences with respect to the payment pattern and stability of dividends corresponds to the firm's

payment pattern and stability. Since the shareholders, or the clientele, of the firm gets what they expect, the value of the firm's share is unaffected by changes in its dividend policy. They believe that changes in dividend policy reflect the changed expectations about future earnings. Any change in the price of the stock is caused by the information content dividends, which can convey the future expected earnings.

M-M assert that management is free to divide the earnings of the firm between dividends and retained earnings in any manner it chooses since it would have no effect on the value of the firm. The Miller-Modigliani position here is entirely consistent with their position on capital structure hypothesis. In this regard, the effect of dividend payments on stockholders' wealth is offset exactly by any other means of financing used by the firm. Thus, after the firm has made its decision to invest, it must then decide to retain earnings or sell more common stock. M-M argue that the present value per share after the dividend has been paid and new stock floated is equal to the market value of the firm's stock if no dividend was paid; therefore, the stockholder would be indifferent as to the means of financing. This is so because the price of the stock would decline in the market as a result of the dilution of future earnings caused by the issuance of additional shares. However, what would be the impact on the stockholders' wealth if the firm floated debt instead of common stock? Miller and Modigliani argue that this is also immaterial. They also argue that capital structure decision is irrelevant. Since the capital structure used by the firm does not affect the value of the firm, hence, dividends are too irrelevant.

Signaling Hypothesis

As in the case of capital structure theory, finance theorists have recently developed full-scale economic models of dividend payments as value-maximizing responses to pervasive informational asymmetries between corporate managers and shareholders are referred to as signaling models. Ross (1977) provides a first step towards a rationale for the existence of dividends by using signaling model developed by Spence (1974). Ross argues that firm values are set in the market with reference to expected future earnings. If changes in capital structure give information that allows a re-assessment of the firm's prospects, then there may be an effect on valuation. He holds that an increase in dividend payout is an unambiguous message because it cannot be mimicked by firms, which do not anticipate higher earnings, and management has an incentive to "tell the truth". However, the information content of dividend hypothesis was tested in several studies, but the evidence presented appears to be inconclusive. While Watts (1976) finds a positive dividend announcement effect, he concludes that the information content is of no economic significance because the difference is small enough to preclude the possibility of excess profits net of transaction costs. On the other hand, Pettit (1972) and Laub (1976) find that dividend announcements convey useful information beyond that already reflected in earning announcements. In another study, Aharony and Swary (1980) support the findings of Pettit and Laub by measuring the usefulness of both dividend and earning announcements as signals of changes in the future prospects of firms. In addition to providing strong support for the hypothesis that changes in quarterly cash dividends provide useful information beyond that provided by corresponding quarterly earning figures.

Their results suggest that the stock market adjusts to new quarterly dividend information in an efficient manner. Ofer and Seigal (1987) provide evidence that analysts revise their earning forecasts following the announcement of an unexpected dividend change by an amount positively related to the size of the unexpected dividend change. They also provide evidence that these revisions are positively related to the change in equity value surrounding the announcement. Thus, it is observed that with the exceptions of Watt's study, the empirical evidence appears to support that dividend changes convey some unanticipated information to the market.

Tax effects on Dividend

Finance theorists are divided on the effect of taxes on valuation of dividends (Poterba and Summers, 1984). The traditional view holds that heavy taxation on dividends at both corporate and personal level is a restraint for paying dividends rather than retained earnings. There are two important observations against this view. Miller and Scholes (1978) state that investors have access to a variety of dividend tax avoidance strategies that allow them to effectively escape dividend taxes. Another objection by King (1977) and Auerbach (1979) is that, cash has to be paid out as dividends sooner or later, and therefore paying it earlier in the form of current dividends imposes no greater a tax burden on shareholders than does the delay. According to this view taxes do not deter dividend payments. On the other hand the tax hypothesis holds that investors make the decisions based on after tax return. Differences of the tax rates among investors would have influence on the pricing of stock with different dividend policies and it is possible to control stock price by changing payout ratio.

Brennan (1970) for the first time developed an “after tax” version of the Capital Asset Pricing Model (CAPM) and performed a cross sectional test for the impact of dividend yield on stock return. In this model, it was shown that stocks with a high payout ratio have higher required before tax returns than stocks with a low payout, and as a result they have lower prices. However, Black and Scholes (1974) criticized Brennan’s research method for including a “cross-sectional bias”. The source of this bias was the significant correlation observed between dividend yield and beta. Litzemberger and Ramaswamy (1982) provided positive relationship between the dividend yields and stock returns by means of the extended tax CAPM by using the expected returns as opposed to the observed dividend yield for each stock in the month of the dividend’s payment. The empirical study by Divecha and Morse (1983) support the tax-induced clientele effects of dividend. However, the studies by Black and Scholes (1974), Litzemberger and Ramaswamy (1979) and Miller and Scholes (1982) observed ambiguity in those tests, where the results are very sensitive to the measurement of dividend yields. Other theoretical and empirical studies have claimed to be against clientele effects. Miller and Scholes (1978) argued that the dividend income could be “laundered” or converted into non-taxed income so that the effective tax rate on dividend would be zero. They further stated that if investors hold a highly levered portfolio, they could offset dividend income by incurring interest payments on debt in order to make the effective tax negligible. However, subsequent studies by Feenberg (1981) and Peterson and Ang (1985) concluded that this method had seldom been taken into practice. Modigliani (1982) advocates modest tax effect, which was supported by the study of Richardson et al. (1986).

Information Content of Dividend

The informational role of dividend payments originated with Linter's (1956) classic article documenting that corporate managers approach dividend decisions with great care and with the idea that the level of dividend payments selected will become a fixed expense of the company for the foreseeable future. Linter shows that managers are far more concerned with changing an established per share dividend payment than they are with finding the "correct" level of dividend payout. The other most significant contributors were such as Bhattacharya (1979), Miller and Rock (1985), Bar-Yosef et al. (1986), Haley and Palepu (1988). The objectives of these studies are to analyze the efficiency providing inside information to the market by a dividend policy under the assumption of asymmetric information, and also to examine the conditions for efficiency. Other empirical studies by Laub (1976), Watts (1976), Charest (1978), Aharony and Swary (1980), Woolridge (1983), Ofer and Siegal (1987) seek the rationale for a firm to pay dividends, and provide explanations in terms of the information content. However, Lakonishok and Lev (1987) argue that, the information content of dividend needs to be conceptually substantiated and empirically examined. Two criticisms can be put forward for the hypothesis i) managers use dividend policy to express their forecast. There are no logical grounds to argue that dividend is more efficient than other methods, thus it is necessary to prove the superiority of dividend as the means of conveying information in comparison with alternatives (Barclay and Smith, 1988); ii) there has been no discussion about the contents and quality of information that can be conveyed by dividend policy. It is obvious that managers are reluctant to provide inside information that may give a benefit to the

competitors, and that investors are unconvinced of the quality of information released when there is a conflict of interest between managers and themselves (Hess, 1982). Under the assumption of information asymmetry Bhattacharya and Ritter (1983) and Myers and Majluf (1984) developed models to examine the decision making to the managers. The former analyses the situations that enables managers to release information without giving a benefit to the competitors, the latter investigates the rational behavior of the managers in a wider perspective by incorporating both the financial and investment decision policy (Chowdhury, 1996b). Thus, it can be concluded that markets react to announcements of dividend changes in systematic, predictable ways that are consistent with the hypothesis that dividend convey relevant information in markets characterized by informational asymmetries.

Agency Cost Considerations

The dividend literature primarily relied on two lines of reasoning to generate predictions about dividend behavior: information asymmetry and agency conflicts. The information asymmetry models argue that managers know more than investors about firm prospects and that dividends reveal some information to the market. This implies that dividend changes announcements should be positively related to stock returns because a higher dividend signals higher current or future earnings. A number of studies report significant excess returns around the announcement of dividend changes: positive /negative returns are associated with positive/negative changes in dividends. Information asymmetry also helps explain the observed reluctance of managers to change dividends. A second line of dividend models has explored the effects of agency conflicts on dividend behavior. The agency cost

model is currently the leading mainstream economic model for explaining observed dividend payouts. In a nutshell, the agency cost model explains dividend payments as value maximizing attempts by managers of certain corporations to minimize the deadweight costs of agency conflict between managers and shareholders that arises naturally in large corporations which is characterized by separation of ownership and control. The severity of these agency problems which show up primarily as a tendency to retain cash flow over-investing in zero or negative projects is in turn a function of i) the industry in which the firm operates, the size of the company, the capital intensity of the firm's production process, the free cash generated and the availability of positive NPV investment opportunities to the firm; and ii) the number of shareholders, their relative "tightness" or "diffuseness", and the presence or absence of an active large share bloc-holder willing and able to direct corporate management (Megginson, 1997). Moreover, agency theories focus on the different incentives of managers and securityholders and the role of dividends as a disciplinary mechanism. By reducing the amount of free cash flow, dividends force managers to submit discipline of the financial markets. These theories predict that dividend change announcements should be positively related to stock returns because a higher dividend level reduces managers' tendency to waste free cash.

In a world of significant agency problems between insiders and outsiders, dividends can play useful role. The insiders who control corporate assets can use these assets for different purposes that are detrimental to the interest of the outside investors. More specifically, they can divert corporate assets to themselves, through outright theft, dilution of outside investors through share issues to the

insiders, excessive perk consumption, asset sales to themselves or transfer pricing with other entities they control (Shleifer and Vishny, 1997). Moreover, insiders can use corporate assets to pursue investment strategies that yield personal benefits of control, e.g., growth or diversification, without benefiting outside investors (Jensen, 1986). By paying dividends insiders return corporate earnings to investors and hence are no longer capable of using these earnings to benefit themselves. Dividends are better than retained earnings because the latter might never materialize as future dividends. Moreover, the payment of dividends exposes companies' possible need to come to the capital markets in the future to raise external funds, and hence gives outside investors an opportunity to exercise some control over insiders at that time (Easterbrook, 1984).

The meaning of insiders differs from country to country. In the U.S.A, the U.K., Canada and Australia, where ownership in large corporations is relatively dispersed, most large corporations are to a significant extent controlled by their managers. In most other countries large firms typically have shareholders that own a significant fraction of equity. The controlling shareholders can effectively determine the decisions of the managers and thus the problem of managerial control is not as severe as it is in the common law countries. On the other hand, the shareholders in control can use policies that can be beneficial for them at the cost of the minority shareholders. The minority shareholders are always the victims of insider control, who have a taste for dividends (Porta et al., 2000).

To give a logical justification of dividend behavior from agency theory perspectives it is assumed that managers are not perfect agents of the other participants in the corporation, but they pursue their own interest when they can.

Because the managers are not the residual claimants to the company's income stream, there may be a divergence between their interests and those of the other participants. Managers, investors and other participants will find it advantageous to set up devices, including monitoring, bonding and ex-post readjustments that give managers the incentives to act as better agents. The costs of monitoring, bonding and the residual losses from slippage are agency costs borne by investors. The monitoring cost of the managers is one form of agency cost. This is costly for shareholders and the problem of collective action ensures that shareholders undertake too little of it (Fischel, 1983). Although the shareholder would incur the full costs of monitoring he would reap gains only in proportion to his holdings. Because shares are widely held, no one shareholder can capture even a little of the gain. They would be wealthier if there were persons, comparable to the bondholders' indenture trustee, who monitored managers on shareholders' behalf. The second source of agency costs is risk aversion on part of the managers (Jensen and Meckling, 1976; Shavell, 1979; and Marcus, 1983). The investors with diversified portfolio of stocks will be concerned only about any non-diversifiable risk with respect to company's investment although managers have a substantial part of their personal wealth tied up in their corporations. If the companies perform poorly or, worse, go into bankrupt, the managers will loose their jobs and any wealth tied up in their corporations' stock. Therefore, managers will be concerned about total risk and their personal risk aversion will magnify this concern.

The risk-averse manager may choose projects that are safe but have a lower expected return than riskier projects. Shareholders have opposite preference because riskier projects benefit shareholders at the cost of the creditors and

shareholders would expect managers to behave as risk preferences. Of course, creditors recognize this and try to control it in advance through bond indentures. Debtholders assume that given the limits set by their contracts, shareholders prefer to take maximum benefits. If a company issues debt, which is priced, assuming the company will maintain its dividend policy, the value of the debt is reduced and shareholders' equity increased if the shareholders subsequently raise the dividend rate and finance the increase simply by reducing investment. But the question is not whether the riskiness of the projects can be controlled through debt covenants or other legal devices rather, it is, whether the costs of control and residual agency costs can be reduced by a method that includes dividend.

The manager can change the risk of the company not only by altering the mix of projects, but also by varying its debt-equity ratio. The lower the ratio of debt to equity, lesser the chance of bankruptcy of the company. Debtholders consider this in fixing the rate of interest for the debt, given the existence of debt managers can control the amount of risk by selecting a dividend policy. If the managers issue debt first and then finance new projects from retained earnings, the debt-equity ratio will fall. The lower it falls, the lower the managers' risk and greater the boon bestowed on the debtholders, who receive their contract for interest but escape the contracted for risk. Financing projects from retained earnings if unanticipated by bondholders transfer wealth from shareholders to debtholders. Just as bondholders want to limit dividends to prevent advantage taken by shareholders once a rate of interest is set, so shareholders want to increase dividends to the extent possible in order to avoid being taken advantage of by bondholders (John and Kalay, 1982).

Shareholders, therefore, would like to induce manager to take more risks, so that they do not give wealth to debtholders. The shareholders would prefer that managers go to the limit authorized by contract by imposing risks on firm's creditors. Yet it is hard to give managers the right to incentives to do this. There is little one can do to get rid of their risk aversion. They will remain undiversified no matter what ever happens, because of the nature of their human capital; indeed, the lack of diversification in managers' holdings has other benefits. Unless there is some form of ex-post settling up with managers, which will be difficult (costly) to achieve, shareholders' payoffs will be lower, with consequences for the level of investment.

Systematic patterns in corporate dividend payout ratios may be explained by a tradeoff between the floatation costs of raising external fund and the benefit of reduced agency costs when company increases the dividend payout. Easterbrook (1984) suggests that increased dividend payments reduce volume of funds, over which managers have discretionary control and thus reduces agency costs. On the other hand, when the corporations retain earnings it is not subject to investment decision to the discipline of the capital market; thus there exists an agency cost with respect to managements' discretion over the use of retained earnings that is not incurred when company goes to capital market to raise investment funds. Jensen (1986) suggests that the payment of dividends helps reduce management control over the firm's pool of earnings and in some instances the agency costs associated with discretionary managerial control over earnings have become great enough to inspire corporate take over attempt effects.

It is observed that because all forms of controlling of agency costs are themselves costly, we would expect the substitution among agency cost control devices. One of the methods of dealing with agency costs is for the managers to hold substantial residual claims in the corporation. As the managers' claim increases, other things remain equal, dividend becomes less valuable to investors and decreases. Rozeff (1982) suggests that this occurs. The same sort of substitution should accompany use of other devices.

From the foregoing discussion it is observed that modern finance theory has, as yet, not developed a general theoretical model of share price equilibrium, assuming efficient, perfect and complete markets which accommodates the existence of dividends and optimal capital structure. The theoretical relationship between clientele, valuation, information, tax effect remains unclear although a large number of literatures is available that purport to explain dividend behavior but without a satisfactory understanding. Moreover, there are no fully satisfactory theoretical agency models of dividends that derive dividend policies as part of some broad optimal contract between investors and corporate insiders, which allow for a range of feasible financing instruments. The existing agency model does not fully deal with the choice between debt and equity in addressing agency problem, the choice between dividends and share repurchases, and the relationship between dividend and new share issues. The dividend and capital structure puzzle have been exacerbated by mixed theoretical and empirical evidences as discussed from different perspectives (Chowdhury and Chowdhury, 1995).

Based on the above facts focus has been given on two different agency models of dividend for empirical study i.e., Dividends as an Outcome of Legal Protection

of Shareholders and Dividends as a Substitute for Legal Protection of Shareholders. These models have been successfully used by Porta et al. (2000) for examining empirical agency problems and dividend policies around the world.

Dividends as an Outcome of Legal Protection of Shareholders

This view holds that dividends are an outcome of an effective system of shareholders' security. Minority shareholders pursue their powers to corporations to dispense cash and precluding insiders from using high earnings to benefit themselves through their voting rights, by selling their shares and by shareholder activism. Shareholders may communicate their concerns to other investors in an effort to place more pressures on the firm's managers or its board members. Generally, institutional investors commonly communicate with high-level corporate managers and have opportunities to offer their concern about firm's operations. Investors may also engage in proxy contests in an attempt to change the composition of the board and may sue the board if they believe that the directors are not fulfilling their responsibilities to the shareholders and spend too much for perk consumption. Moreover, good investors' protection makes asset diversification legally riskier and more expensive for the insiders. Thus, raising the relative attraction of dividends for them. However, the levels of dividends depend on the degree of minority shareholder's right and its execution. Based on the above grounds the outcome model predicts that dividend payout ratios are higher in countries with good shareholder protection keeping other things equal.

Dividends as a Substitute for Legal Protection of Shareholders

The substitute model asserts that insiders are interested in issuing equity in the future pay dividends to establish a reputation for decent treatment of minority

shareholders and dividends are considered as a substitute for legal protection. It suggests the use of external capital markets for fund requirements on attractive covenants. Under this view a reputation for moderation in dispossessing shareholders can be attained by paying dividends, which reduces what is left to be dispossessed. This mechanism operates under the condition that the firm must never stop dividends and dispossess shareholders totally.

Shareholders receive best treatment and are valued most in countries with weak legal protection. As a result dividends are required to have good reputation in such countries. On the other hand, reputation is not a big factor in countries with strong shareholder protection. Hence, the need to pay dividends is also a weak one. From this it is implied that dividend payout ratios should be higher in countries with weak legal security of shareholders than those with strong security. This model also shows that firms which have better growth prospects possess stronger incentive for better reputation as they have a greater need for external finance. These firms therefore might choose higher dividend payout ratios than firms with poor growth prospects.

In sum the outcome model suggests that dividend payout ratios are higher in countries that provide good protection to shareholders. It also holds the view that in these countries companies with better investment opportunities pursue lower dividend payout ratios. On the contrary, the substitute model predicts the opposite view. It argues that firms with better investment opportunities follow more payout ratios to maintain reputation in countries with poor shareholder protection.

Dividend Behavior of Japanese and Bangladeshi Firms

Discussions on capital structure decisions of Japanese and Bangladeshi firms prompt questions about other aspects of corporate financial behavior and how they may differ between the two countries. In particular, dividend behavior comes to light. With a theoretical view and a set of stylized facts on dividend policy as background focus is made on the dividend policy of these two countries. In each case an attempt is made to look at aggregate dividend behavior as well as supporting or conflicting evidence that was compiled from research with individual country. The following discussion is an attempt to provide an insight into the dividend behavior of these two countries and to find out if it has any impact to mitigate the agency cost involved in pursuing dividend policy.

Dividend Behavior of Japanese Firms

It has traditionally been the policy of Japanese companies to declare a dividend of 10 percent of par value. Most companies have sustained this fixed dividend rate for a long period of time, so it is called *antei haitou* (consecutive dividend). Table-3.1 shows year wise dividend yield, average dividend rates of the listed companies on the Tokyo Stock Exchange and annual time deposit interest rate in Japan. When seen from a long-term point of view, the average dividend yields of all First Section stock have consistently been dropping till recently. The dividend yield on the listed companies in TSE was 1.63 percent in 1980, which declined rapidly afterwards. After falling below 1 percent level in 1985, the dividend yields continued declining, standing to 0.76 percent in 1994. The average payout ratio of all listed companies declined from 59.31 percent in 1975 to 27.64 percent in 1989.

However, average dividend rates of Japanese companies appear to be steadily increasing. The average payout ratio in other countries for this same period were, 54 percent in the United States, 66 percent in the United Kingdom, 50 percent in the Germany. Analyzing these low payout ratios reveal that the more profit a company makes the less its payout ratio is. According to a publication of the Association of National Stock Exchanges of Japan (Survey of Dividend, 1991) there are companies such as Fuji Photo Films with payout ratio of 7.65 percent. Many of Japan's profitable companies, for instance, Toyota Motors (16.1 percent), Matsushita Electric (17.1 percent) have payout ratios between 10 to 20 percent (Chowdhury, 1994).

Table - 3.1
Dividend Yield and Average Dividend Yield and Time Deposit Interest Rate
(Japanese Firms)

Year	Time Deposit Interest Rate	Dividend Yield	Average Dividend
1980	7.00	1.63	13.16
1981	6.25	1.55	13.38
1982	5.75	1.68	13.62
1983	5.75	1.39	13.76
1984	5.50	1.09	14.22
1985	5.50	0.99	14.50
1986	3.76	0.78	14.66
1987	3.39	0.63	14.72
1988	3.39	0.55	15.04
1989	4.32	0.47	15.56
1990	6.08	0.52	16.08
1991	5.25	0.64	16.42
1992	3.82	0.90	16.42
1993	3.089	0.82	-
1994	2.174	0.76	-

- Notes: 1. Time deposit interest rates are as of the end of each year.
2. Dividend yield and average dividend rates are based on dividend paying companies.

In case of Japan, businesses have mostly been taking a dividend policy that is enough to a certain fixed percentage of the face value as dividends remained steady

and continuous, while stock prices went up and remained high (Tokyo Stock Exchange Fact Book, 1986). Accordingly, the dividend yield has gone down. The important point is that in Japan although dividend yield is lower than a time deposit interest rate, a dividend rate is higher than that.

Generally, more profits the company earns the smaller the payout ratio is, and even with increasing profits the dividend does not increase. Thus, the stability of Japanese corporate dividend policy is observed. Low payout ratios indicate high rates of retained earnings, a situation favorable for companies, but the low percentage of dividend yields creates problems for most Japanese institutional shareholders. For instance, a bank needs cash flow in order to pay interest to depositors. Insurance companies face regulations to declare minimum policy dividends (currently around 7.5 percent). Even when there is no adequate reported income, they are generally not allowed to treat capital gains (even when realized) as income. Most of the non-financial corporations are, at least partially, financing their share holdings by loans (Hodder and Tschoegl, 1985). Thus, there is a set of institutional shareholders who need substantial dividend yield. But they traditionally follow policies of buying and holding shares to enhance business relations with the firm issuing those shares. Consequently, the purchase of low yielding stocks squeezes these institutions' ability to meet their commitments.

Futatsugi (1986) points out that mutual share holdings make it possible for firms to "swindle" investors out of dividend. However, the rise in share prices, which results when either low dividend payments or high retained earnings due to mutual shareholdings, is not considered by him. Kurasawa (1984) argues that without taxes, mutual shareholding has no effect on individual investors, because

individuals are indifferent to any changes caused by mutual share holdings if the real sides are unchanged. Of course, tax should not be ignored since it affects the situation. Individuals cannot be indifferent to the way in which they receive the returns from their investment; whether they are kept in the firm as retained earnings or paid as dividend does not matter (Modigliani and Miller, 1963).

According to Abegglen and Stalk (1985) for the years 1973 to 1983, Japanese shareholders fared better than their US counterparts in sixteen out of twenty-one comparisons of industry leaders. On average, Japanese shareholders outscored Americans by 175 percent to 39 percent in pre-tax appreciation plus cumulative dividends expressed as a percentage gain over the original price for an average share. On average, for a stock chosen from among the Japanese industry leaders, a 1,000 yen investment in 1973 in these companies had returned a total profit of 1,750 yen by 1983. A \$10 investment in the average US leader had returned only \$ 3.90. Dividends accounted for only 11 percent of the total profit to the Japanese shareholder, but had been 85 percent of the US investor's profit. On a pre-tax basis, Japanese shareholders fared four times better than their US counterparts.

When the returns are subjected to taxation, the distinctions are magnified. Although dividends paid to individuals are heavily taxed in both countries, capital gains are not usually taxed in Japan. For the periods 1973-1983, Japanese stock returns after tax payment out performed comparable US stocks by 170 to 20 percent. Almost 95 percent of the total return to the Japanese shareholder was from capital gains. Capital gains to the US investor had constituted only about 20 percent of the total for the last ten years. The remainder of the US investor's return came in the form of highly taxed dividends (Abegglen and Stalk, 1985).

The Japanese financial policies have a growth bias. High profit retention, low dividends and aggressive use of debt are mechanisms that enable a growing company to grow faster. The welfare of the employees, of the management and of the shareholder is improved by continued strong growth -- therefore, growth is the principal goal of all parties. Since, the Japanese shareholder generally pays no capital gain tax, the benefit is greater if the company invested in grows rapidly.

Although the Western and the Japanese would claim growth to be one of their principal goals, the Japanese give different weights to growth. A survey of report on the corporate management objectives of the US and Japanese corporations ranked return on investment as the principal corporate objective of the US firms. Share price increase was ranked second and market share third. In contrast to the US, Japanese corporations ranked market share first, return on investment second, and the improvement of product portfolio third. Share price increase was last among Japanese corporate objectives. Following the corporate objectives, Japanese management believed that if the company achieved market share and profitability targets, and continued to grow through introducing new products, the stock market will recognize their performance by supporting the share of the company and thereby lead a higher price.

Since the corporate shareholders reduce the supply of stocks in Japan, it is generally argued that the price fluctuation in the Japanese stock market is too intense. This results in the increase of the riskiness of shares and keeps risk-averse investors out of the market. Thus, the drop in individual shareholding is intensified. It is difficult to conclude that mutual shareholding is against the interest of individual shareholders when their objective is to get capital gain and that dividend

income is of less importance to them. As mentioned earlier, in case of mutual shareholding the payment of dividend to each other is of less importance. However, if the rate of dividend differs among them, then the enterprise paying less dividends will be more benefited if cost of raising capital from retained earnings is less than that of other sources of capital (Baumol et al., 1970).

It is difficult to precisely point out the dividend puzzle and even harder to draw the conclusion. However, the corporation has the enterprise group surrounding main bank supporting from the back. So, the corporation is able to raise funds and overcome the higher market demand for dividend suggested by market imperfections.

Dividend Behavior of Bangladeshi Firms

Table-3.2 shows year wise dividend yield, average dividend rates on the companies listed on the Dhaka Stock Exchange (DSE) and annual time deposit interest rates in Bangladesh. It is revealed from the above table that the dividend yield of the listed companies on the DSE has consistently been dropping till recently. The dividend yield of the listed companies on DSE was 12.90 percent in 1980, which declined afterwards. Undergoing some fluctuations during the period under consideration it came down to about 5 percent in 2001. Average dividend rates of Bangladeshi corporations was 13.97 percent in 1980, which demonstrates a declining trend in the subsequent years. The important aspect is that both dividend yield and dividend rate in Bangladesh are lower than the time deposit interest rate. An increasing market capitalization and decreasing cash dividend are observed in Bangladesh. However, the rate of yield decrease is more than that of the dividend. This

indicates that both lower dividend and higher capitalization are relevant factors for explaining low yields.

Table-3.2
Dividend Yield and Average Dividend Yield and Time Deposit Interest Rate
(Bangladeshi Firms)

Year	Time Deposit Interest Rate	Dividend Yield	Average Dividend
1980	14.00	12.90	13.97
1981	14.00	14.45	13.88
1982	14.00	16.85	12.68
1983	14.00	15.10	11.98
1984	14.00	21.57	8.32
1985	14.00	10.83	18.20
1986	14.00	16.56	11.75
1987	13.25	8.86	13.41
1988	13.25	6.76	6.21
1989	13.25	2.65	10.17
1990	10.00	3.28	8.59
1991	9.00	2.98	10.24
1992	7.50	4.86	9.50
1993	6.00	5.46	8.39
1994	5.00	5.26	7.91
1995	5.00	5.49	10.54
1996	5.00	4.79	11.1
1997	6.25	6.21	14.63
1998	7.50	5.36	15.83
1999	7.50	5.53	13.84
2000	7.50	4.66	15.20
2001	7.50	5.10	16.05

Notes:

1. Time deposit interest rates are as of the end of each year. Since 1990 individual banks are allowed to decide the interest rates on deposits within a range. From 1990 the rates shown are the minimum set by monetary authority. However, when taking the average of the actual rate offered by individual bank on one year time deposit these are around 2% higher than minimum.

2. Dividend yield is calculated through aggregating all the dividends paid by June each year on all equity stocks and divided by the aggregate prices of all equity stocks at the start of July previous year. Average dividend rates are for dividend paying companies.

Source: 1. Compiled from Economic Trends, Bangladesh Bank - Various Issues and Dhaka Stock Exchange (DSE) Review and DSE Fact Book - Various Issues. 2. Equity Yields on Ordinary Shares, Statistics Department, Bangladesh Bank, July-September 2001.

It is observed that many corporations have been taking dividend policy that is more or less enough to a certain fixed percentage of the face value as dividend. Accordingly, rising rate of market capitalization considerably influences the dividend yield to decline. Until recently, the time deposit interest rate was much higher in Bangladesh, which was partly because of the high rates of inflation and partly because of promoting savings. Interest rates were revised downward with the reduction of inflation rates. Thus, the dividend yield and dividend rates appear to be relatively lower when interest rates are taken into consideration.

Table – 3.3
Price Earning Ratio of the Listed Stocks at Year End

Year	Price Earning Ratio		
	Bangladesh	Japan	USA
1986	10.30	47.3	14.91
1987	28.91	58.3	14.04
1988	8.07	58.4	10.38
1989	25.53	70.6	12.47
1990	12.09	39.8	11.66
1991	8.02	37.8	15.91
1992	8.87	36.7	15.24
1993	7.70	64.9	15.20
1994	23.12	79.5	12.70
1995	23.97	-	-
1996	86.07	-	-

Source: For Bangladesh estimated from various issues of Dhaka Stock Exchange (DSE) Reviews, For Japan and USA, Tokyo Stock Exchange (TSE) Monthly Statistics Report for the First Section Stocks and Securities Research Institute, 1996.

Table – 3.3 reveals a comparative picture of Price Earning Ratio (PER) of Bangladesh, Japan and the USA. Due to the existence of different accounting principles, discount rates used for pricing and the rate of profit growth, it is difficult to evaluate stock prices by considering at the cross-country figures for

international comparison. However, it has analytical relevance. This table suggests that different standards can be put forward for different countries. PERs for Japanese firms range from 36.7 to 79.5, for the USA from 10.38 to 15.91 and for Bangladesh highest is observed in 1996 (87.07) and the lowest in 1993 (7.70) for the period under consideration. In Japan, PER suddenly dropped from 70.6 in 1989 to 39.8 in 1990 due to downward swing of Tokyo Stock Market in the early 1990s. The common understanding is that Japanese share prices are relatively at high levels in terms of economic fundamentals. For Bangladesh PER is consistent with the general price rise and general price fall respectively during these years. It also displays substantial volatility suggesting its weak relevance to the market realities of Bangladesh. Since PERs for Japanese and Bangladeshi enterprises show relatively high volatility it should not be considered an absolutely proper measure for investment, rather attention need to be paid to other measures like price book ratio (PBR). Based on the assets value of the firms and cash flow multiple, PBR is stock price divided by cash flow (i.e., after tax profit plus depreciation charges).

Following Prowse (1989) the dividend yield (D_1) and dividend payout ratio (D_2) have been calculated for Bangladeshi firms for the major industrial sectors in Bangladesh for the year 1996 and 2000. The following measures have been used for the calculation of dividend yield and dividend pay out ratio. The estimated results are presented in Table- 3.4.

$$D_1 = \frac{\text{Total Dividend Paid}}{\text{Market value of Equity}}$$

$$D_2 = \frac{\text{Total Dividend Paid}}{\text{Net Income}}$$

Table -3.4

**Dividend Yield (D_1) and Dividend Payout Ratio (D_2) Means by Industrial Sectors
(Bangladesh, Japan and the US)**

Industry	Dividend Yield (D_1)				Dividend Payout Ratio (D_2)			
	US	Japan	Bangladesh		US	Japan	Bangladesh	
			1996	2000			1996	2000
Food	0.029	0.016	0.032	0.0359	0.330	0.410	0.929	0.1200
Textiles	0.022	0.014	0.043	0.0568	0.260	0.340	2.080	0.0568
Printing/ Publishing	0.018	0.013	0.008	0.1154	0.230	0.320	4.553	0.1242
Chemicals	0.033	0.012	0.035	0.0410	0.370	0.370	0.508	0.1284
Petroleum Refining	0.045	0.012	0.021	0.0315	0.460	0.250	0.598	0.0860
Rubber/Plastic	0.021	0.016	-	-	0.190	0.480	-	-
Steel Works	0.020	0.019	0.147	0.0418	0.210	0.650	0.473	0.3033
Metal Products	0.026	0.012	-	-	0.300	0.450	-	-
Engines/Turbines	0.025	0.014	-	-	0.320	0.470	-	-
Electrical Machine	0.014	0.008	-	-	0.160	0.290	-	-
Vehicles/Aircraft/ Shipbuilding	0.023	0.015	-	-	0.220	0.430	-	-
Lab/Research/ Eqpt	0.019	0.008	-	-	0.300	0.260	-	-
Miscellaneous	0.017	0.013	0.012	0.0518	0.190	0.350	0.401	0.2830

Source: Columns 2, 3, 5 and 6 are taken from Prowse (1989) and rest columns are estimated by the author

Aggregate data provide a useful and interesting perspective on international differences in dividend policy and their relationship with other variables, but they also mask many of the firm and industry characteristics that may dominate dividend policy. To capture those effects, one must look at the behavior of individual firms and the industries in which they operate. Some industries, for example, commodity producers, are subject to significant volatility in the market

prices of their product. Other industries may be growing significantly faster or slower than the economy as a whole, which has an impact on both their need for capital and the future earning flows they can be expected to generate. These same factors could also exert a strong influence on the dividend policies of the firm within an industry. Having established that there are significant national differences in dividend behavior, one wonders if there are industry differences as well? Evidence on this question is presented in Table- 3.4, which shows dividend yield and dividend payouts of different industries for the U.S.A., Japan and Bangladesh.

These industry averages, however, also hide substantial variation across firms within an industry. Firms in the same industry often have very different dividend policies and, although some firms follow dividend policies of other in their industry. It is true that the need for cash, which may at least partially reflect industry factors, play an important part in the dividend decision, but generalizations within an industry are difficult to draw.

Table-3.4 reveals that dividend payout ratios are higher for Japanese enterprises compared to the US enterprises except petroleum refining and lab./research equipment. Bangladeshi firms show higher dividend payout ratios compared to Japanese enterprises in all industries except engineering. Dividend yields are higher in the US corporations compared to the Japanese enterprises. An insight into the dividend yields between Japan and Bangladesh shows that dividend yields are higher in food, textile, chemical and petroleum (Fuel and Power), engineering sectors (Steel Works) in Bangladesh, and lower in printing and miscellaneous sectors.

Bangladeshi firms follow high payout ratio to satisfy the investors' demand. Japanese firms on the other hand with their unique institutional arrangements and crossholding of share can avoid the higher market demand for dividend. Agency theory holds that increased dividend payments reduce volume of funds over which managers have discretionary control. This reduces agency costs. On the contrary, when the corporation retain earnings is not subject to investment decision to the discipline of the capital market, there exists an agency costs with respect to managements' discretion over the use of retained earnings. Jensen (1986) suggests that the payment of dividends helps reduce management control over the firm's pool of earnings and in some instances the agency costs associated with managerial control over earnings.

In addition to the split between current cash flow and future growth, other factors can determine investor attitude towards dividend. One significant factor, mentioned in the theoretical discussion, is the different between the personal income tax rate on dividends and that on capital gains. If the tax rates induce investors to favor capital gains over dividends, then investors should pressure management to reinvest rather than pay out earnings. Those investors with a need for immediate cash can always liquidate a part of their investment portfolio and recognize capital gain, rather than pay a higher tax rate on dividend payments. Thus, one of the important explanations of the differences in the dividend payout ratio lies in the differences in the tax system of the countries under study. In Japan, dividends are taxed at both individual and corporate level, but they are taxed at a lower rate than retained earnings at corporate level. King's (1977) study holds that for the late 1970s dividend were taxed around 30% more heavily in the US relative

to retained earnings than they are in Japan, assuming a marginal personal income tax rate of 35% in both countries.

Taxation of dividend income in Bangladesh depends in part whether the company is a private or a public limited company. Dividends from private companies and dividend from public listed companies in excess of Tk.30,000 are subject to income tax – withholding at source is not a uniform practice. The ICB Unit Fund claims income tax free status for its dividend, but this is disputed, and unit holders were subject to tax in recent years. Investment in shares of public listed companies is eligible for Investment Allowance Benefit. In Bangladesh preference for dividend is evident from the fact that investors are mainly interested in buying securities of big companies possessing goodwill and higher rate of dividend. But for Bangladeshi firms with closely held characteristic the management may prefer for tax or expansion purpose to keep low dividend payment, thereby tending to reduce potential investors' interest (Robbins, 1980).

A study by Varley (1992) reveals that in Bangladesh existing shareholders who purchased their shares after 1988 experienced more capital losses than gains. Only shareholders who purchased before 1988 were likely to enjoy capital gains; most of these gains have perished. To the rational investors, therefore, the equity end of the capital market taken as a whole in Bangladesh lost a vitally important attraction, its potential for capital gains. There may be some individual company exceptions to the overall trend in prices and certain investors may feel they have the special insight or the luck to pick stocks that will manage to go up in price even while most of the listed shares are falling. However, the average investors will

probably perceive that the odds are against capital gains, the return to investor depends entirely on dividends (Chowdhury, 1996b, 1998).

In Bangladesh, dividend incomes of individuals are not taxed up to a certain limit and capital gains on sales of listed securities have been exempted from tax but dividend incomes of companies are not been exempted. In Japan, the dividend incomes of companies have not been exempted from tax, rather, tax is payable on such incomes at a usual rate while interlocking stockholding can avail the tax benefit when this is done by borrowed funds. Although, corporate tax rates are comparable in the US and Japan, personal tax rates are much lower in Japan. Both corporate and personal taxes have important bearing upon overall marginal tax advantage of corporate debt financing. When capital gains are largely untaxed, a reduction in all other personal taxes increases the pass-through of interest income by a larger percentage. This increases the pass-through of equity income, which comprises dividend and capital gains. Thus, the relatively low personal taxes might imply that the marginal tax advantage is larger in Japan (Flath, 1984). In order to restrain management from withholding dividend payments despite available earnings, Bangladesh had a penalty tax rate that was imposed if a company earned a certain level of profits but did not declare dividends. This is eliminated in 1978 so that management may retain more of the earnings and facilitate expansion. In Japan, low dividend payments are sometimes appraised as disadvantages for capital market to play its due role as a pool of long-term funds for business enterprises and in providing better investment opportunity for investors (Ahmed, 1997).

The above discussion suggests that there exist significant differences in the way dividend received by individuals and dividends received by corporations are taxed in both Japan and Bangladesh. In Japan, individuals are taxed on the dividends they receive from their holdings, whereas, corporations are taxed on the capital gains they receive. The firms in Japan (including banks and insurance companies) are likely to prefer dividends as opposed to capital gains. Most of the non-financial corporations are, at least partially, financing their share holdings by loans (Hodder and Tschoegl, 1985). Thus, there is a set of institutional shareholders who need substantial dividend yield. On the other hand, in Bangladesh the taxation of dividend income is determined by the nature of the company being private or public. Moreover, individuals have differential tax treatment depending on different situations.

Specification of the Model and Measurement Issues

The model used in this study is based on a model developed by Porta et al. (2000) to identify some of the basic elements of the agency approach to dividends, to understand its key implications and to evaluate them on a cross section of 80 firms from Japan and Bangladesh. The reason for considering two legal regimes is to identify the severity of agency problems to which minority shareholders are expected to differ across countries mainly because of variations of shareholder protection.

Dependent Variables

Several measures of dividend payout ratio have been used. The numerator in these ratios is the total cash paid to ordinary and preferred shareholders and the

denominator in these measurements is cash flow, earnings and sales. Dividend-to-cash-flow: The dividend-to-cash-flow ratio has a natural economic interpretation since it is the ratio of cash distributed to cash generated in a period. Dividends are defined as total cash dividends paid to common and preferred shareholders. Cash flow is measured as total funds from operations net of non-cash items from discontinued operations. Dividends are taken as a percentage of cash flow in fiscal year 1994. Industry Adjusted Dividend-to-cash-flow: The proxy for this variable is Industry-adjusted dividend-to-cash-flow (IA_ dividend-to-cash-flow) ratio for a firm. To calculate IA_ dividend-to-cash-flow, first the median of the dividend-to-cash-flow ratio is found for each industry in each country. Then for each industry in the sample the world median as the median of dividend-to-cash-flow ratio across industries is defined. Finally, IA_ dividend-to-cash-flow as the difference between the firm's dividend-to-cash-flow and the world median dividend to earnings for the firm's industry is calculated. Dividend-to-earnings: The dividend-to-earnings ratio is the most widely used measure of dividend payouts. Dividends are defined as total cash dividends paid to common and preferred shareholders. Earnings are measured after taxes and interest but before extraordinary items. Dividends are taken as a percentage of earnings in fiscal year 1994. Industry adjusted dividend-to-earnings: The proxy for this variable is Industry-adjusted dividend-to-cash-flow (IA_ dividend-to-earning) ratio for a firm. To calculate IA_ dividend-to-earnings, first the median of the dividend-to earning ratio is found for each industry in each country. Then for each industry in the sample the world median as the median of dividend-to-cash-flow ratio across industries is defined. Finally, IA_ dividend-to-earning is calculated as the difference between the firm's dividend-to-earnings and

the world median dividend-to-earnings for the firm's industry. Dividend-to-sales: Dividend-to-cash-flow and dividend-to-earnings ratios have some problems, e.g., both of them may depend on country's accounting conventions and tricks and these ratios are subject to manipulation. To overcome the above-mentioned problems we have introduced dividend-to-sales ratio, since sales are less dependent on accounting convention and difficult for manipulation. Dividends are defined as total cash dividends paid to common and preferred shareholders. Sales are net sales. Dividends are taken as a percentage of sales in fiscal year 1994. Industry Adjusted dividend-to-sales: The proxy for this variable is Industry-adjusted dividend-to-sales (IA_dividend-to-sales) ratio for a firm. To calculate IA_dividend-to-sales, the median of the dividend-to-sales ratio is found for each industry in each country. Then for each industry in the sample the world median is defined as the median of dividend-to-sales ratio across industries. Finally, IA_dividend-to-sales is calculated as the difference between the firm's dividend-to-sales and the world median dividend-to-sales for the firm's industry.

Independent Variables

Legal Protection: One of the main remedies to agency problems is law. Corporate and other law provide outside investors including shareholders certain power to protect their investment against expropriation by insiders. These power range from the right to receive equal dividend, right to vote, participating in electing directors and right to sue the company for damages. These legal protections exist to protect the interest of minority shareholders. In a cross section of countries with different quality of shareholder protection the dividend payout ratio will be different. Shareholders who feel protected would accept low dividend payouts and high

reinvestment from a company with high opportunities. On the contrary, if shareholder protection is poor shareholders will immediately try to get what they can. In view of the above we have incorporated legal origin in the model i.e., common law and civil law incorporated. Common Law: Legal protection consists of both the content of the law and quality of their enforcement. Many common law countries including the U.K. and the USA provide effective protection to minority shareholders. LLSV (1998) show that common law countries provide best legal protection to minority shareholders. Following the above features common law is included in the model. The proxy equals one if the origin of Company Law of the Country or commercial Code of the country is the English Common Law and zero otherwise. Civil Law: It is observed that in civil law countries the legal protection to shareholder is weak. In this case the proxy equals one if the Company Law or Commercial Code of the Country originates in Roman Law and zero otherwise. Low Protection: The proxy is based on different types of rights exercised in corporations. The proxy equals one if the index of antidirectors' rights is smaller or equal to three and zero otherwise. The index of antidirectors' rights is formed by adding one when: (1) the country allows shareholders to mail their proxy vote; (2) shareholders are not required to deposit their shares prior to the General Shareholders' Meeting; (3) cumulative voting or proportional representation of minorities on the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an Extraordinary Shareholders' Meeting is less than or equal to 10 percent ; (6) or when shareholders have preemptive rights that can only be waved by a shareholder's meeting. The range for the index is from zero to six.

High Protection: The proxy equals one if the index of antidirectors' rights (defined above) is greater than three and zero otherwise. Growth in Sales: Growth in real (net) sales is average annual percentage growth over the period 1989-1994. Growth Sale decile: Rank decile for GS. Firms are ranked into 10 equal-size groups. Industry Adjusted Growth in Sales: Average annual percentage growth in real (net) sales over the period 1989-1994. To calculate IA_GS, the median of the GS for each industry in each country is defined. Then for each industry in the sample world median as the median of the GS is defined. Finally, calculation of IA_GS as the difference between the firm's GS and the world median GS for the firm's industry is done. Industry Adjusted Growth in Sales decile: Rank decile for IA_GS. It ranges from 1 to 10. Dividends tax advantage: The ratio of the value, to an outside investor, of US\$1 distributed to the value of US\$1 received in the form of capital gains when kept inside the firm as retained earnings.

It may be mentioned that due to non-availability of information on tax rate for Japanese firm this variable is excluded from the regression. Thus, this is one of the limitations of this study.

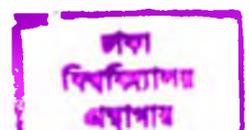
Sample Characteristics

Financial cross-section data are obtained for the period 1995-2000 for the variables discussed earlier for both Japanese and Bangladeshi firms. The sample consists of 100 Japanese firms and 50 Bangladeshi firms. All the firms have traded stock publicly and have financial data available for at least six years. All the Japanese firms have publicly traded on the "First Section" of Tokyo Stock Exchange. All Bangladeshi firms have publicly traded on Dhaka Stock Exchange. The data for

Table-3.5
Variable Definitions

Variables	Proxy Definition
Common Law	Equals one if the origin of Company Law of the Country or commercial Code of the country is the English Common Law and zero otherwise.
Civil Law	Equals one if the Company Law or Commercial Code of the Country originates in Roman Law and zero otherwise.
Low Protection	Equals one if the index of antidirectors' rights is smaller or equal to three and zero otherwise.
High Protection	Equals one if the index of antidirectors' rights (defined above) is greater than three and zero otherwise.
Dividend-to-cash-flow	Dividends as a percentage of cash flow in fiscal year 1994.
IA_dividend-to-cash-flow	Industry-adjusted dividend-to-cash-flow ratio for a firm.
Dividend-to-earnings	Dividends as a percentage of earnings in fiscal year 1994.
IA_dividend-to-earnings	Industry-adjusted dividend-to-cash-flow ratio for a firm.
Dividend-to-sales	Dividends as a percentage of sales in fiscal year 1994.
IA_dividend-to-sales	Industry-adjusted dividend-to-sales ratio for a firm.
GS	Average annual percentage growth in real (net) sales over the period 1989-1994.
GS_decile	Rank decile for GS. Firms are ranked into 10 equal-size groups.
IA_GS	Average annual percentage growth in real (net) sales over the period 1989-1994.
IA_GS_decile	Rank decile for IA_GS. It ranges from 1 to 10.
Dividends tax advantage	The ratio of the value, to an outside investor, of US\$1 distributed to the value of US\$1 received in the form of capital gains when kept inside the firm as retained earnings.

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the Japanese firms are obtained from the Financial Disclosure Reports (*Yuka Shoken Hokokuso*) published by Ministry of Finance (*Okurasho*) and Japan Company Hand Book published by *Toyo Keizai Inc.* The data sources for the Bangladeshi firms are collected from the "Annual Reports" of the individual firms. The distribution of samples for Japanese and Bangladeshi firms across the industrial categories is given in Chapter-2. Table-3.5 provides definitions of all the variables in the study followed by the classification of firms based on both the legal origin of the country in which they are incorporated and their growth in sales relative to the median growth in sales in Table-3.6.

In Table-3.6 firms are classified based on the basis of legal origin of the countries and their growth in sales (GS) relative to the median growth in sales. Countries are required to have at least five valid observations (firms) with growth in sales below the country median and five observations with growth in sales above country median. The Table shows the median value of country medians for Japan and Bangladesh for dividend-to cash-flow, dividend-to-earnings and dividend to sales. Also presented the medians of country medians (MOMs) of dividend payout ratios for various categories of firms and for rapidly and slowly growing firms. For finding the pattern of dividend payout policies in civil and common law countries the MOM is calculated for the different payout ratios separately. The results of this calculation are presented in the first column of Table –3.6. Common law country shows a higher dividend payout ratio compared to civil law country. It is observed that the MOM dividend-to-cash-flow ratio is 11.92 percent in common law country and 7.48 percent in civil law country. The MOM dividend-to-earnings ratios are 45.61 percent for common law country and 40.36 percent for civil law country and

the MOM dividend-to-sales ratio is 2.04 percent in common law country compared to 0.78 percent for civil law country. These results are consistent with the finding of the previous study by Porta et al. (2000). The higher payout ratio of common law country supports the outcome agency model of dividend with the underlying assumption that better shareholder protection advocates higher dividend payments. On the contrary, the result is inconsistent with the substitute agency model of dividend.

Table – 3.6
Dividend by Legal Origin and Growth Opportunities

Legal Origin	All	“Growth” GS > World Median GS	“Mature” GS < World Median GS
Panel A: Dividend-to-cash-flow			
Civil Law (Japan)	7.48	8.33	7.51
Common Law (Bangladesh)	11.92	13.33	15.57
Panel B: Dividend-to-earnings			
Civil Law (Japan)	40.36	41.43	38.63
Common Law (Bangladesh)	45.61	36.11	50.54
Panel C: Dividend-to-sales			
Civil Law (Japan)	0.78	0.83	0.72
Common Law (Bangladesh)	2.04	1.44	2.58
Panel D: Z Statistic for Differences in Medians			
	<u>Div./CF</u>	<u>Div./Earn</u>	<u>Div./Sales</u>
Civil vs. Common Law	1.276	-0.094	1.372
Civil Law: Mature vs. Growth	-0.189	-0.801	-0.094
Common Law: Mature vs. Growth	0.545	0.992	0.463

Additional insights are given to find out the relationship between dividend payout ratios and sales growth between different legal environments. For analyzing the differences the median payout ratios of firms with above and below the country median payout ratios is calculated. Based on legal environment the MOM payout is computed for rapidly and slowly growing firms separately for common and civil law country (last two columns of Table-3.6). It is observed that in common law country payout ratio is higher for slowly growing firms than that of rapidly growing firms. In common law country, the MOM dividend-to-cash-flow ratio is 13.33 percent for rapidly growing firms and 15.57 percent for slowly growing firms; the MOM dividend-to-earnings ratio is 36.11 percent for rapidly growing firms and 50.54 percent for slowly growing firms; and the MOM dividend to sales ratio is 1.44 percent for rapidly growing firms and 2.58 percent for slowly growing firms. These results support the view of outcome agency model of dividend, which holds that well protected minority shareholders prefer to delay dividends in firms having growth opportunity.

Contrary to the above characteristics civil law country shows that rapidly growing firms pay more dividends compared to slowly growing firms. In the civil law country the MOM dividend-to-cash-flow ratio is 8.33 percent for rapidly growing firms and 7.51 percent for slowly growing firms; the MOM dividend-to-earnings ratio is 41.43 for rapidly growing firms and 38.63 percent for slowly growing firms; and the MOM dividend-to-sales ratio is 0.83 percent for rapidly growing firms against 0.72 percent for slowly growing firms. Z statistic is calculated for the differences in medians for civil and common law countries and also for mature and growth firms between two regimes of legal origin.

Regression Results: Analysis and Interpretation

Multiple regressions are used for all three measures of dividend payout ratio for raw data and industry-adjusted data. The quality of legal protection of investors is captured by using dummies. For each payout variable, one regression is conducted that distinguishes between common and civil law countries, and one that distinguishes between low and high shareholder protection countries, and one that includes both the origin and protection dummies. In the regression decile rank of past average annual sales growth for each firm as a measure of investment opportunities is used. The decile of growth rates is defined separately for companies in civil and common law countries. Interaction between growth sale decile and the legal origin or the low investor protection dummy is also included.

Regression results for raw data are shown in Table-3.7. The first regression in panel A, B and C use one measure of investor right i.e., civil law. It is observed that the variable is significant at 10 percent level for dividend to cash flow and at 1 percent level for dividend to sales. It is insignificant for dividend to earnings. These variables have negative sign. It is observed that for dividend to cash flow ratio common law countries have 6.02 percentage higher pay out. The coefficient of growth sale decile is negative but they are not significant. The coefficient of interaction variable between growth sale decile and civil law has shown positive sign except for dividend to earnings. But, they are not significant. However, it can be argued that other things equal there exists no relationship between sales growth and dividend payout for civil law countries. The result obtained through civil law variable appears to support the outcome agency model of dividends.

The second regression using low protection measure reveals that coefficient of these variables are negative for dividend to cash flow and dividend to earnings and both are significant at 10 percent and 5 percent level respectively. However, it is not significant for dividend to sales having positive sign. The coefficients of growth decile possess negative signs for the three measures of dividend payouts and significant for dividend to earnings only. These results reveal that in countries with good shareholder protection

Table-3.7
Panel A: Dividend-to-cash-flow as Dependable Variable

Constant	Civil Law	Low Protection	GS_Decile	GS_Decile*Civil	GS_Decile*LowProtection
12.371* (2.425)	-6.019*** (3.067)		-0.0949 (0.391)	0.236 (0.494)	
6.352* (1.878)		-5.919*** (2.867)	-0.141 (0.303)		0.238 (0.484)
12.369* (2.435)	-6.029*** (3.071)	-0.1206 (2.9804)	-0.139 (0.298)	0.229 (0.474)	0.232 (0.459)

Panel B: Dividend-to-earnings as Dependable Variable

Constant	Civil Law	Low Protection	GS_Decile	GS_Decile*Civil	GS_Decile*LowProtection
45.745* (8.391)	-7.939 (10.614)		-1.334 (1.352)	-1.256 (1.711)	
37.806* (6.501)		-14.847** (4.847)	-7.839** (1.048)		1.261 (1.698)
35.215* (5.442)	-14.646** (4.879)	-16.487** (5.099)	-0.549 (0.826)	1.162 (1.754)	1.1025 (0.817)

Panel C: Dividend-to-sales as Dependable Variable

Constant	Civil Law	Low Protection	GS_Decile	GS_Decile*Civil	GS_Decile*LowProtection
4.805* (0.876)	-3.958* (1.107)		-0.114 (0.141)	0.110 (0.178)	
1.073** (0.567)		4.058* (1.121)	-0.0043 (0.109)		0.116 (0.168)
4.734* (0.796)	-3.964* (1.13)	-3.954* (1.208)	-0.004 (0.109)	0.108 (0.168)	0.124 (0.153)

Note: *, **, *** indicate significance at the 1, 5 and 10 percent levels respectively.
Standard errors are shown in the parentheses

rapidly growing firms pay lower dividends. The coefficient on the interaction variable growth sale decile and low shareholder protection possesses positive sign but they are not significant. This relationship reveals that there exists no relationship between growth and payout in countries with poor shareholder protection. These results can be viewed that dividends are an outcome of pressure on insiders to declare dividends.

By using civil law and low protection variables it is observed that it is significant for dividend to sales at 1 percent level, at 5 percent level for dividend to earnings and for dividend to cash flow at 10 percent level. As for other parameters low protection variables are significant for dividend to earnings and dividend to sales and insignificant for dividend to cash flow, growth sale decile possess negative sign but they are not significant. Interaction of growth sale decile civil and growth sale are also not significant possessing positive sign.

Following Porta et al. (2000) industry-adjusted growth in sales and industry-adjusted dividends is calculated to control industry effects and keeping other variables the same as for raw data. Regression results for industry-adjusted data are given in Table-3.8. It is revealed that using one measure of investors right i.e., civil law variable enters with a negative sign for all the three measures of dividend payout. However it is not significant for industry-adjusted dividend to sales. Considering dividend to cash flow it is observed that common law countries have a 5.4 percent higher payout other things being equal. Growth sale decile is negative and interaction variable between growth sale decile and civil law is positive. This trend is observed for dividend to earning ratio. However for dividend to sales these variables have shown positive sign and are insignificant. For low shareholder

protection the coefficients are negative in the first two regressions but positive in the third regression and they are insignificant in all the three cases. Growth sale decile enters with positive coefficient for dividend to cash flow and dividend to sales and in negative for dividend to earning. Interaction between growth sale decile and low protection has shown positive coefficients in all the three measures of dividend payouts. However, they are not significant. Using civil law and low protection together it is revealed that the coefficient of civil law variable has

Table-3.8**Panel A: Industry-adjusted-dividend-to-cash-flow as Dependable Variable**

Constant	Civil Law	Low Protection	GS_Decile	GS_Decile*Civil	GS_Decile*LowProtection
7.440* (2.009)	-5.427** (2.571)		-0.0757 (0.325)	0.0355 (0.416)	
33.617** (14.051)		-5.431 (2.612)	0.0762 (0.324)		0.0346 (0.411)
7.444* (2.088)	-5.431** (2.563)	-0.259 (2.056)	-0.0402 (0.260)	0.469 (0.341)	-0.355 (0.416)

Panel B: Industry-adjusted-dividend-to-earnings as Dependable Variable

Constant	Civil Law	Low Protection	GS_Decile	GS_Decile*Civil	GS_Decile*LowProtection
17.990* (4.5800)	-4.575 (5.862)		-0.124 (0.741)	0.782 (0.949)	
13.415* (3.659)		-4.773 (5.902)	-0.136 (0.738)		0.779 (0.951)
13.421* (3.711)	-3.757 (4.268)	-4.781 (5.912)	-0.132 (0.737)	0.827 (0.918)	-0.793 (0.945)

Panel C: Industry-adjusted-dividend-to-sales as Dependable Variable

Constant	Civil Law	Low Protection	GS_Decile	GS_Decile*Civil	GS_Decile*LowProtection
2.473 (11.730)	-2.741 (10.473)		0.618 (0.271)	0.604 (0.348)	
0.167 (1.339)		0.398 (1.146)	0.0139 (2.143)		0.594 (0.328)
0.168 (1.334)	-2.317 (1.326)	0.395 (2.142)	0.621 (0.268)	-0.606 (0.384)	0.623 (0.316)

Note: *, **, *** indicate significance at the 1, 5 and 10 percent levels respectively. Standard errors are shown in the parentheses

positive sign in all the three measures of dividend payouts and is significant for the first regression i.e., dividend to cash flow. Low protection enters with a negative sign for the first two cases and with a positive sign for the latter case. However, these variables are not significant. The growth sale decile and interaction variables are also not significant.

Dividend policy is dealt across legal regimes focusing on Japanese and Bangladeshi firms based on agency theory perspectives to identify some of the basic elements of the agency approach to dividends and to evaluate them on cross section of firms. It is observed that dividend policies vary across legal regimes in ways consistent with the outcome agency model of dividends. It is revealed that dividend payout ratio depends on shareholder protection. Generally, firms in common law countries where investor protection is relatively better make higher dividend payment compared to firms in civil law countries. Moreover, common law countries with high growth firms pursue lower dividend payouts compared to low growth firms. These behaviors also support the agency theory view that investors in good legal protection countries use their legal power to extract dividends. The empirical analysis suggests that firms in common law countries make higher payment of dividends and pursue higher payout ratio compared to civil law countries. Moreover, in common law countries high growth firms follow lower dividend payout than low growth firms. These findings support the outcome version of agency theory in which countries with good legal protection use their legal powers to extract dividends from firms, especially when reinvestment opportunities are poor.

Generally, investor protection reflects the degree of capital market development, agency relationships and corporate governance structure of a country. In developed capital market it is possible for firms to pay out their earnings as dividends because they can always raise external fund, whereas firms in developing countries would hold on to the hard to get cash. This view hold that dividend payouts are higher in countries with good investors protection that is to be considered for the countries with developed capital markets. However, the degree of capital market development is to a significant extent endogenous, and indeed part by determined by legal origin and the quality of investor protection (LLSV 1997).

Other cogent reasons rest on the institutional differences, the structure of corporate ownership, governance mechanism and nature of corporate group interactions between Japan and Bangladesh. Corporate governance in Japan differs dramatically from the corporate governance system of Bangladesh. Japanese firms have straight and stable equity crossholding with other firms, reciprocity in trade and financial relations and close tie with main bank. Though corporate governance is not homogeneous, some firms operate within industrial groups or *keiretsu*, while others are independent. The close tie between managers and investors in Japanese firms substantially reduce information asymmetries and agency conflicts relative to Bangladesh. In particular, lower levels of information asymmetry and agency conflict in Japanese firms suggest that dividend policy do not act as a signal of information or as a disciplinary mechanism and Japanese managers need not fear adjusting dividends in response to earnings changes.

Previous studies suggest that agency relationships and corporate governance in Japan differ from others, but researchers come to diverse conclusions about

whether the differences affect corporate actions. Kester (1986), Prowse (1992) find differences in behavior with respect to leverage, liquidity constraints, debt policy and new security issues between Japan and the U.S.A. On the other hand, Kaplan (1994), Rajan and Zingales (1995) do not find a difference in debt policy or long-term investment during financial distress. Here additional insight is provided to another area, that is, dividend policy based on agency models where significant differences have been observed between Japanese and Bangladeshi corporate policies and legal regimes.

Different aspects of dividend policy of Japan and Bangladesh are discussed and attempt is made to explain dividend behaviors focusing on agency models of dividend. Test on a cross section of firms suggests that there are notable differences between the dividend policies pursued by Japanese and Bangladeshi firms. For example, the fraction of earnings paid as dividends to investors is higher in Bangladesh compared to Japan. Investors' attitudes are also not so generous. It shows that dividend policy in Bangladesh is different from the norms that are pursued in Japan. These differences are due to the unique financial system of Japan, differences in ownership structure, taxation of dividend income, availability of information and the role of main bank. Moreover, the crossholding of stocks, active institutional participation in the debt and equity market also help Japanese firms to avoid market demand for dividends. On the contrary, Bangladeshi firms with infant capital market and restrictions on institutional investment cannot avoid the market demand for dividend suggested by market imperfections. In Bangladesh managers are concerned about their dividend policy. This concern is augmented by the role of regulatory arrangement, which act as a protector of minority

shareholders. Shareholders exert a great deal of influence on dividend policy. Finally, the evidence presented here provides insight into the dividend policy of firms in Japan and Bangladesh with different level of minority shareholder rights under different legal regimes, but it also illustrates the complexity of that issue and leaves many questions unanswered. A better understanding of dividend behavior in different countries requires additional research, both at aggregate and firm levels. Hopefully, this study provides enthusiasm for that work.

Chapter 4

Agency and Bankruptcy Theories: Their Influence on Firm Capital Structure

The separation of ownership from control has been a widely researched topic in the study of industrial society. This separation arises through an alleged diffusion of ownership among a wide range of shareholders who have interest but no effective control over corporate decisions. Ever since Adam Smith (1937) wrote that managers of other people's money cannot be expected to look after their money with the same "anxious vigilance" with which they look after their own, researchers have examined the consequences for firm performance of having professional managers as the agents of shareholders (e.g., Blair and Kamserman, 1983; Cubbin and Leech, 1983; Kamerchen, 1968; Lerner, 1970; Monsen et al., 1968; Radice, 1971; and Steer and Cable, 1978).

The social and private costs of an agent's action due to incomplete alignment of the agent's and owner's interests were brought to attention by the seminal contributions of Jensen and Meckling (1976). In particular, finance theorists and economists, point to a variety of conflicts between these classes of organizational stakeholders which result in agency costs. Agency theory has also brought the roles of managerial decision rights and various internal and external monitoring and bonding mechanisms to the forefront of the theoretical discussions and empirical research. Agency concepts, as applied to finance theory, were introduced by Jensen and Meckling (1976). In agency theory, the firm is viewed as having locus relationships between groups. Great strides have been made in demonstrating

empirically the role of agency costs in financial decisions, such as in explaining the choices of capital structure, dividend policy and executive compensation. However, the actual measurement of interest, agency costs, in both absolute and relative term terms, has lagged behind.

An agency relationship is defined as one in which one or more persons (the principal/s) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent (Jensen and Meckling, 1976). The cornerstone of agency theory is the assumption that the interests of principals and agents diverge. An entrepreneur, or a manager, raises funds from investors either to put them to productive use or to cash out his holdings in the firm. The financiers need the manager's specialized human capital to generate returns on their funds. The manager needs the financiers' funds, since he either does not have enough capital of his own to invest or else wants to cash out his holdings. In the context of the firm, management acts as an agent for equity suppliers (shareholders and bondholders) who represents the principal. But how can financiers be sure that, once they sink their funds, they get anything but a worthless piece of paper back from the manager? The agency problem in this context refers to the difficulties financiers have in assuring that their funds are not expropriated or wasted on unattractive projects. Because of the agency relationship, the investors are generally absent at the spot of management activity from which problem of moral hazards occur. That is, this absence prevents the investors from monitoring the manager's actions. This absence has also made it possible for managers to obtain much superior and richer business information that would be available to the investors. Consequently, the investors naturally suspect

that the agent managers may exploit this information asymmetry in an attempt to maximize their own benefits at the sacrifice of the capital suppliers. Two potential conflicts of interest exists: the shareholder/manager conflict, giving rise to the agency cost of equity, and bondholder/shareholder-management conflict, giving rise to agency cost of debt. These agency costs are composed of residual loss, bonding expenditures by the agent, and monitoring expenditures by the principal.

Acting in their own self-interests agents do not always make decisions that are optimal for the principal. Assuming rational expectations, shareholders and bondholders anticipate this divergence and reduce the price they are willing to pay for the firm's stock or bonds. This reduced price is the residual loss, or the decrease in market value of the firm's equity due to the discrepancy between decisions made by the agent and those the principal would make. Ultimately, the manager bears this loss in the form of higher cost of capital. According to agency theory, the principal can limit divergence from his interest by establishing appropriate incentives for the agent, and by incurring monitoring costs designed to limit opportunistic action by the agent. Further, it may pay the agent to spend resource (bonding costs) to guarantee that he will not take certain actions that would harm the principal, or to ensure that the principal will be appropriately compensated if he does take such action. That is, the agent may incur ex-ante bonding costs in order to win the right to manage the resources of the principal. Despite these devices, it is recognized that some divergence between the agent's action and the principal's interest may remain. In so far as this divergence reduces the principal's welfare, it can be viewed as a residual loss. Additionally, the principal may incur expenditures in attempts to restrict the manager's actions. These monitoring costs

are also borne by the agent, as they reduce the price received for the firm's equity. In equilibrium, the benefits from bonding and monitoring contracts (reduction in the residual loss) equal the costs of contracting and management's lost utility from placing restrictions on its actions (e.g., the reduction in shirking or prerequisites taken from the firm).

The financial theory of agency may be considered as a logical extension of the economic theory. The inclusion of additional principals and a treatment of market forces distinguish the financial theory. The financially related agency problems originate from two distinct relationships between three groups. Firstly, there is the traditional agency problem of agent incentive and risk sharing between equityholders and managers. Wakasugi (1987) has termed the relationship between principal and agent as a typical agency relationship and considers the conflicts between shareholders and bondholders as a real agency relationship. Secondly, there is an agency problem between shareholders and debtholders. According to Wakasugi (1987), agency-debt cost is a cost in which bondholders must carry the burden intended to implement the credit and debt contract between bondholders and stockholders, and is a cost which stockholders must bear finally. In case of secured debt, the payment of principal and interest is guaranteed if the firm goes bankrupt. Debt is a safe asset with the fixed interest for investors. In comparison to this, in case of an unsecured loan, debtors should bear the risk of bad debts. This will result in the following agency-debt costs:

i) The first agency debt cost is a cost of disclosure when issuing. The bigger a secured risk is, the coupon rate of issued debt will become higher with the

estimation of the premium. The investors tend to estimate a bigger risk as they are short of information.

ii) The second agency debt cost is the opportunity cost resulting from (that bondholders make) managers' act for the formers' (shareholders) profit, for example, the restriction of firms' activities by bond covenants in debt contract.

Although this is fixed in issuing, costs are generated in all periods of debt.

iii) The third agency debt cost is caused by the difficulty of pricing the debt without securities. Although the coupon rate is fixed and the cost of bad debts is considered in issuing, but in fact, it is impossible to fix the coupon rate properly.

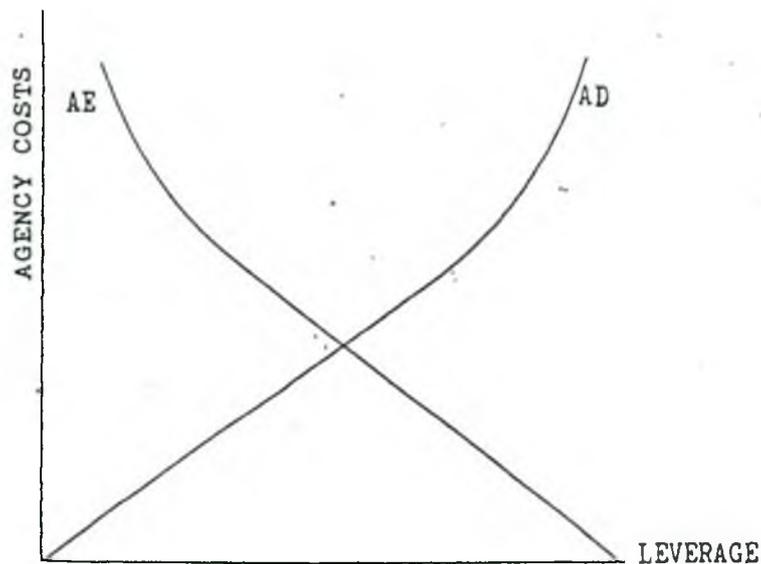
After the debt contracts many things may happen which are different from what were expected because of various causes. In the world of uncertainties, since the future cannot be forecasted, it is impossible to reflect the premium against these risks on the contractual coupon rate. So, bondholders impose higher rates for safety reasons or to tighten the debt covenants.

iv) The fourth one is opportunity loss. This loss results from a situation when correct decision is not taken to shift the risk and transfer the profit between shareholders and bondholders.

The first agency problem (i.e., agency-equity problem) originates from excessive prerequisites consumption by the agent and a potential equityholder loss if stock is issued by agent at an undervalued price. The second agency problem, (i.e., agency-debt problem) can be traced to the incentive of stockholders to increase the risk of the firm at the expense of debtholders. The effect of external equity on the behavior of a manager can be analyzed by comparing his behavior in a 100 percent manager-owned firm to his behavior when some portion of the

equity is sold to outside investors. If the owner-manager has 100 percent of the equity, he will make operating decisions that maximize his utility. However, if the owner-manager sells a fraction of his equity claims, agency-equity costs will result due to the divergence of his interest and the external equityholders. The cost of pecuniary and non-pecuniary benefits for the manager will be borne by all the shareholders.

Figure – 4.1
Capital structure as determined by agency costs of debt and equity

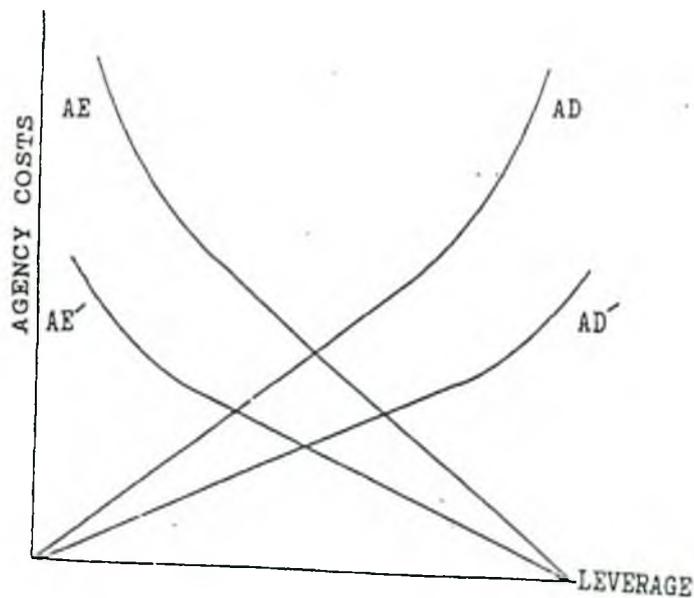


Fama and Jensen, in their 1983 article cite the importance of residual claimants (stockholders). In corporations that have many residual claimants (widely-held), it becomes costly for all of them to be involved in decision-making processes. Thus, this increases the agency-equity costs for these corporations. The opposite effect is presented when residual claims are concentrated (closely-held corporations). The agency costs related to capital structure can be represented as a

trade off between agency-equity costs and agency-debt costs. As shown in Figure-4.1, the firm should have an interior optimal capital structure, where AE is agency-equity costs and AD is agency-debt costs.

Myers (1977) argues that one way to reduce agency-debt cost is to shorten the maturity of debt. A going concern corporation that has short maturity debt rather than long maturity debt should have less agency costs. Bondholders of short-term debt would be better protected than long-term bondholders from a change in corporate risk without adequate compensation since the price of debt would be more frequently renegotiated. However, the conditions for agency cost reduction

Figure – 4.2
Capital structure as determined by agency costs of debt and equity



for both debt and equity should create an agency structure that would predict lower agency-equity costs in closely-held corporations and lower agency-debt costs in corporations with short maturity debt. This theoretical relationship is depicted in

Figure-4.2. In this figure, agency-equity costs for widely-held firm is represented by AE and for closely-held firm is by AE'. On the other hand, agency-debt costs are represented for firms with long term debt maturities as AD and short-term debt maturity firms as AD'.

Conflicts between Shareholder and Debtholder

Securing external equity through debt financing gives rise to agency costs from the conflict of interests between debtholders and shareholders-management. In this analysis, it is assumed that managers act to maximize the value of the firm's stock rather than the value of the firm. Actions that transfer wealth from debtholders to shareholders can arise from discrepancies between the dividends, financing or investment policies that were expected when the debt was originally issued and those policies that are actually followed. For example, management may increase dividend payments to shareholders by selling the firm's assets, issue additional debts of equal or higher priority, undertake investment projects with a variance of return higher than indicated when the debt was issued, or reject projects with positive returns if benefits would accrue to the debtholders. Rational expectations on the part of debtholders should lead them to price the debt lower in order to compensate for that wealth transfer. This reduction in the value of the firm is the residual loss from the issuance of debt.

Since this agency cost is borne by the shareholder-manager, incentives for monitoring and bonding agreement arise. Monitoring contracts are represented by bond covenants, defined as provisions in the indenture which place restrictions on specific management actions after the bonds are sold. The costs relating to such

restrictions are assessed by debtholders in pricing the debt and, thus, ultimately are borne by the shareholder- manager. Bonding agreements arise if the management can perform the monitoring activities more effectively by agreeing to restrictions in advance (Smith and Warner, 1979).

Monitoring contracts often concern the firm's production and investment policies, with restrictions on investments in other businesses and the disposition of assets. Frequently, limits are placed on the firm's ability to pay dividends. Subsequent financing activities may be affected by restrictions on the issuance of additional debt and the incurrence of fixed claims such as leases. Since production and investment policies are difficult to monitor most restrictions relate to the firm's dividend and financing activities (Kelly, 1983).

However, there are other sources of shareholder-debtholder conflict which are less easy for debtholders to monitor since the wealth appropriating actions by shareholders are not easily observable or controllable. If a firm sells debt for stated purpose of engaging in low variance investment projects and the debt price is commensurate with the stated risk involved, then the value of the shareholders' equity increases and the value of the debt is reduced if shareholders subsequently substitute investment projects which have a higher variance. In doing so shareholders are taking advantage of the fact that they have claim to the upper part of the distribution of returns from the investment while the existence of limited liability means that debtholders are burdened with the down side risk.

Underinvestment is another way of appropriating wealth from debtholders. Myers (1977) shows that the shareholder of a firm with risky debt will have incentives to reject projects having positive net present values if the benefit from

accepting the projects accrues to debt holders. If debt issued by the firm is priced on the expectation of all positive net present value that projects are engaged in, then the underinvestment will result in a transfer of wealth from debtholders to shareholders. Of course, there will be a dead weight efficiency loss due to the under investment which will lower the value of the firm. Kim (1978) provide evidence that significant wealth transfers from debtholders to shareholders occurred in 24 firms which took advantage of loopholes in their debt contract to dilute the claims of their senior debtholders.

Conflicts between Shareholder and Manager

In modern corporations, the principals (shareholders) delegate decision-making authority to agents (managers). The divergence of interests between agents and the principals gives rise to the potential for agency problems. Given the centrality of the shareholder-wealth maximization assumption, financial economists have paid particular attention to describe the contracting relationships between the shareholders and their agents which constrains managerial discretion and promotes actions in the shareholders' best interests. The primary orientation of agency theory as developed in financial economics was introduced by Jensen and Meckling (1976). This theory describes the effects of a variety of factors in the contracting environment on the contractual relations that arise in the firm. These factors include uncertainty, information asymmetry, risk and effort preferences of agents, and cost of monitoring and bonding devices. However, there are also important normative aspects of a parallel branch of agency research. In this branch, called principal-agent research (Jensen, 1983), theorists use mathematical tools and

deductive methodology to investigate optimal contracting relationships which align the interests of principals and agents, and their welfare implications.

Two recent papers by Harris and Raviv (1990) and Stulz (1990) focus on the manager-shareholder conflicts but differ in specific ways in which the conflict arises. In both the models, managers and investors disagree over an operating decision. Harris and Raviv argue that managers assume to want to continue a firm's current operation even if liquidation of the firm is preferred by investors. The optimal capital structure in Harris and Raviv trades off improved liquidation versus higher investigation costs.

In Stulz, managers are always assumed to invest in all available funds even if paying out cash is better for investors. In both the cases, it is assumed that the conflict cannot be resolved through contracts based on cash flow and investment expenditures. Debt mitigates the problem in the Harris and Raviv model by giving debt holders the option to force liquidation if cash flows are poor. Stulz, as in Jensen (1986), asserts that debt payments reduce free cash flow. The optimal capital structure in Stulz is determined by trading off the benefits of debt in preventing investment in value decreasing projects against the cost of debt in preventing investment in value increasing projects. The comparison between Harris and Raviv and Stulz models is summarized in Table-4.1 where the relationship of these two models with Jensen and Meckling (1976) and Jensen (1986) is also shown.

In Jensen (1986), corporations with an abundance of good investment opportunities can be expected to have low debt levels relative to firms in mature, slow growth, cash rich industries. Stulz argues that, in general, managers will be

reluctant to implement the optimal debt levels but are more likely to do so where there is a greater threat of takeover. Thus, firms, which are more likely to takeover targets are expected to have more debt *ceteris paribus*, while the firm with anti-takeover measures will have less debt (Harris and Raviv, 1991). However, firms whose value-increasing investment opportunities create more value than the value decreasing ones destroy will have less debt than firms in the opposite situation. This is because such firms are primarily concerned not in losing the value-creating opportunities (Hart and Moore, 1990).

Table – 4.1
Comparison of Agency Model Based on Manager-Shareholder Conflicts

Model	Conflict	Benefit of Debt	Cost of Debt
Jensen and Meckling(1976)	Managerial Perquisites	Increase Managerial Ownership	Asset Substitution
Jensen (1986)	Overinvestment	Reduce Free Cash	Unspecified
Harris and Raviv (1990)	Failure to Liquidate	Allows Investors Option to Liquidate	Investigation Costs
Stulz (1991)	Overinvestment	Reduce Freecash	Underinvestment

Source: Harris and Raviv (1991)

The nature of contractual arrangements between modern corporations and their investors have puzzled economic and finance scholars for a long time. Only in recent years researchers have started to address this issue in a more systematic and rigorous fashion. However, the discussion of agency costs need not be limited to costs associated with debt and equity capital. For example, Titman (1984) suggests

that agency costs are important for contracts (whether implicit or explicit) between the firm and its customers or between the firm and its employees. Agency costs in labor contracts are also important. If a firm's labor force has acquired specialized skills which cannot be easily transferred to alternate employment, then laborers bear nontrivial costs if a firm goes bankrupt. They have to search for new jobs and learn new skills. There is no hope that the bankrupted firm will compensate them for their loss. Consequently, if labor markets are competitive, then laborers will charge lower wages to work for a firm which has a lower probability of bankruptcy. Thus, it is argued that firms, which use a large percentage of job-specific human capital, would also tend to carry less debt, *ceteris paribus*.

Scott (1976) shows that the optimal leverage may be related to the collateral value of the tangible assets held by the firm. If a firm goes bankrupt, the losses of debt holders are limited by the salvage value of the property held by the firm. If the corporate tax rate is zero, the optimal amount of debt in the capital structure is the discounted value of the liquidation price of the firm's assets in bankruptcy. This approach fits in with that of Jensen and Meckling if the debtholders simply require that the loan be tied to the salvage value of specific assets. Such a scheme considerably reduces monitoring costs.

Agency Problems and Optimal Capital Structure

Marginal agency costs of debt are considered to be an increasing function of debt employed in capital structure. This is true in the case of bankruptcy, as the marginal costs associated with bankruptcy depend on the probability of bankruptcy, which is an increasing function of the amount of debt relative to

equity. In terms of the risk incentive and the forgone growth opportunity problems, marginal agency costs of debt depend on the set investment opportunity of the firm. For the risk incentive problem this is observed by ordering projects according to their net market value and level of risk (Galai and Masulis, 1976). The change in net market value, which is associated with a shift to a higher risk project, will determine the magnitude of marginal agency costs.

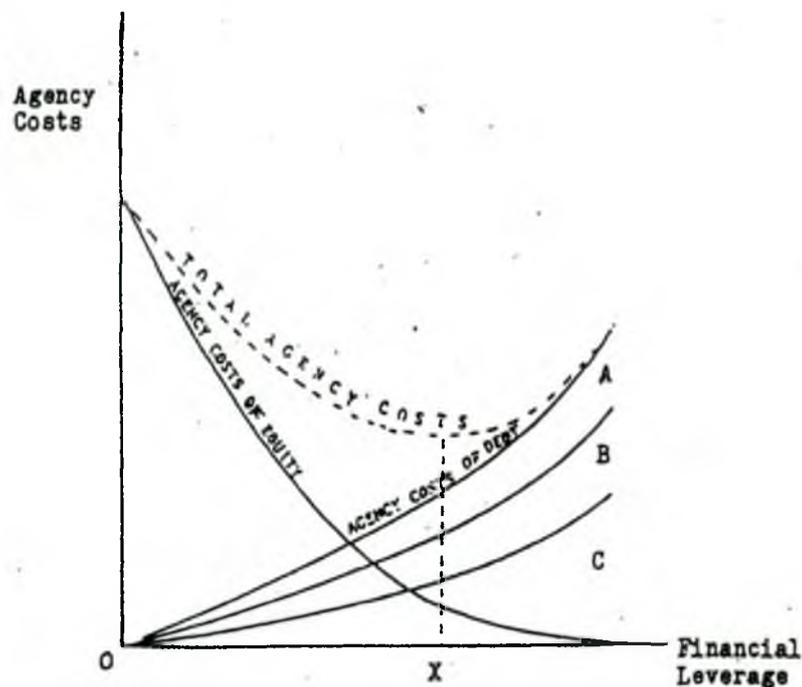
On the contrary, Ross (1977) argues that if debt is used to signal the nature of the firm, an increase in the amount of debt may reduce the agency costs associated with informational asymmetry. The marginal agency costs associated with informational asymmetry depends on the distribution of capital structures among firms which remain undistinguished by the market. These distributions determine the signaling value of marginal units of debt which are used to identify the true value of the firm.

These relationships between the agency costs of debt and the amount of debt give rise to an optimal capital structure in three distinct ways:

Firstly, agency costs may serve as an offset against the tax advantage of debt financing, and hence, corner solution (99.99 % debt in capital structure) argued by the traditional Modigliani and Miller (1963) tax adjusted valuation model. The interior optimal arises from the tradeoff between the tax subsidy which is an increasing function (at a decreasing rate) of the amount of debt employed and the agency costs which are also an increasing function (at an increasing rate) of the amount of debt. Secondly, even in a taxless world, an optimal capital structure can result from the tradeoff between agency costs of debt and agency cost of equity as depicted in Figure – 4.3. Here, the optimum "X" is reached when the present value

of the sum of expected agency costs of debt and equity is minimized. Thus, agency cost alone without tax considerations may give rise to an optimal capital structure. Thirdly, a positive theory of capital structure can emerge in the process of signaling to the market the true nature of the firm when there exists informational asymmetry (Barnea et al., 1981).

Figure - 4.3
Optimal Capital Structure with Agency Costs of Debt and Equity



- A Bankruptcy Costs
- B Investment Incentive Costs
- C Risk Incentive Costs

It is observed that Jensen and Meckling's model predict that managers of an individual firm, starting from all equity position will substitute bonds for stock in the firm's capital structure in order to reduce the agency cost of equity. However, as this process continues, the agency cost of debt begins to rise at an increasing rate. The firm's optimal (value maximizing) debt to equity ratio is reached at a

point where the agency cost of an additional dollar of debt exactly equals the agency cost of the dollar of equity retired. This observation is expressed by the modern Agency Cost / Tax Shield Trade-off Model of corporate capital structure. This model expresses the value of a levered firm in terms of the value of an unlevered firm, adjusted for the present values of tax shields, bankruptcy costs and the agency costs of debt and equity as follows:

$$V_L = V_U + \text{PV of Tax Shields} - \text{PV of Bankruptcy Costs} + \\ \text{PV Agency Costs of Outside Equity} - \text{PV Agency Costs of Outside Debt}$$

This model provides an understandable explanation for how capital structures are actually set by corporations. The available research on capital structures both in the United States and internationally is consistent with the model's prediction (Megginson, 1997).

The above discussion suggests that agency problems arise from conflict of interest between individuals associated with the corporation. Many of these conflicts can be resolved in a spontaneous and costless fashion by the financial markets. However, if frictions exist in the market, the agency problems may give rise to potential costs. Agency costs can be minimized through the complex contractual agreements between the parties in conflict. Thus, agency problems may explain the evolution of complexities in capital structure e.g., conversion and call privileges in corporate debt. Financial contracts, which differ in terms of their inherent ability to resolve agency problems, may sell at differential equilibrium prices in the market. The financial manager reaches an optimal capital structure when, at the margin for each class of contract, the costs associated with agency

problems are balanced by the benefits associated with existing yield differences, bankruptcy costs and tax shields.

Bankruptcy Theory

No subject of study better exemplifies the developments that have taken place in the field of corporate finance than that of bankruptcy. For a long period bankruptcy was a neglected topic in the theory of corporate finance, being taken as virtually synonymous with liquidation, its unverified costs used to provide a counter balance to tax savings in the analysis of capital structure, the absolute priority rule being implicitly assumed to hold, and the details of the legal code neglected. All this has changed (Brennan, 1995). In their path breaking paper, Modigliani and Miller (1958) demonstrate that under certain assumptions the market value of a firm is independent of its capital structure. These assumptions include the absence of taxes, transaction costs, and bankruptcy costs. Miller (1977) has argued that the introduction of corporate and personal taxes not alter the capital structure irrelevance result in the absence of bankruptcy costs. The inclusion of bankruptcy costs, generally considered in conjunction with the tax deductibility of interest payments, has led others to conclude that capital structure will affect the value of the firm (Baxter, 1967; Brennan and Schwartz, 1978; Chen and Kim, 1979; Kraus and Litzenbarger, 1973; Myers, 1977; Robbichek and Myers, 1966; and Scott, 1976). In this case, value maximizing firms may choose optimal capital structures consisting both debt and equity.

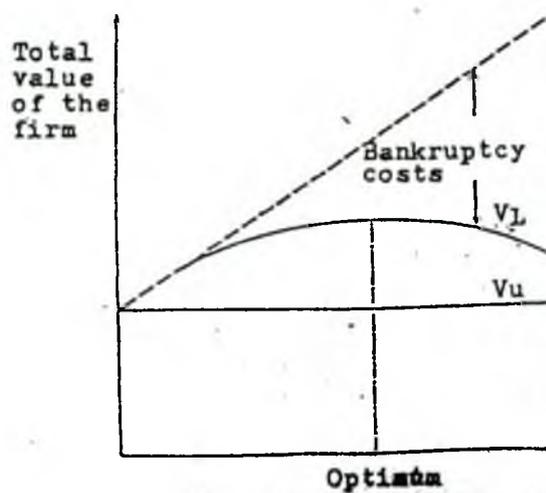
When we recognize the realities of the corporate tax system, we find that there is an incentive for the firm to introduce more debt capital. As this process is

followed, the possibilities of bankruptcy becomes greater since the firm is more likely to default on interest and capital repayments. On the other hand, bankruptcy occurs when the fixed obligations to creditors cannot be met. Although dividends for shareholders can be bypassed, failure to pay interest on loans gives the lender the right to claim the company's net operating assets preventing the continuation of trading. A bankrupt firm has a negative shareholder equity. This implies that the claims of its creditors cannot be satisfied unless the firm's assets can be liquidated for more than their book value.

The extent to which bankruptcy reduces the cash flows of firms has been debated extensively in the academic literature. The reduction in cash flows related to bankruptcy or the threats of bankruptcy leads to many costs for securityholders and are generally classified as either direct bankruptcy costs or indirect bankruptcy costs. Included among these are: 1) payments to a trustee selected by the court to protect the interests of the various groups who have claims on the firm, 2) interruptions of operations because suppliers may be hesitant to sell to the firm on credit, 3) sporadic and inefficient production because of management's preoccupation with default negotiations, 4) loss of sales because the firm's customers begin to look for other sources of supply due to uncertainties raised by default, and 5) losses occurring when assets are quickly sold, at distress prices, if the firm is being liquidated. These costs are termed "dead weight losses" because they produce reductions in streams of net operating income payable to shareholders and debtholders -- the losses reflecting reactions of third parties (such as suppliers) or payments to third parties (such as attorneys). Even though, debtholders may bear some of these deadweight losses, they will still insist on covenants in the bond

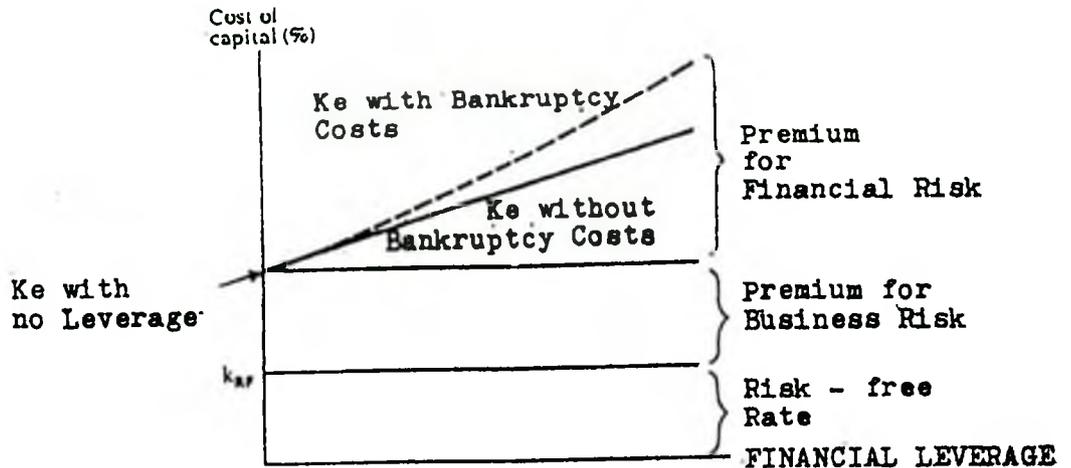
indenture permitting them to throw the firm in the event of default. In this way, they protect their investment in the event of a fatal deterioration of the financial prospects of the firm. Thus, the bankruptcy costs have an offsetting effect on the corporate tax advantages of debt as shown in Figure – 4.4.

Figure – 4.4
Proportion of Debt Finance



Since bankruptcy costs represent a "dead weight" loss investors cannot eliminate them. For this reason, the effect of bankruptcy costs is to increase the common shareholders' required rate of return as shown in Figure - 4.5. In the absence of bankruptcy costs, the equity investor's required rate of return can be thought of as a function of the risk free rate, a business risk premium, and a premium for financial risk. However, the possibility of bankruptcy means that equity investors increase their required rate of return to compensate for the risk of bankruptcy. The effect is to increase the firm's marginal cost of capital as financial leverage increases.

Figure-4.5
Impact of Bankruptcy Costs on the Equity Investor's Required Rate of Return



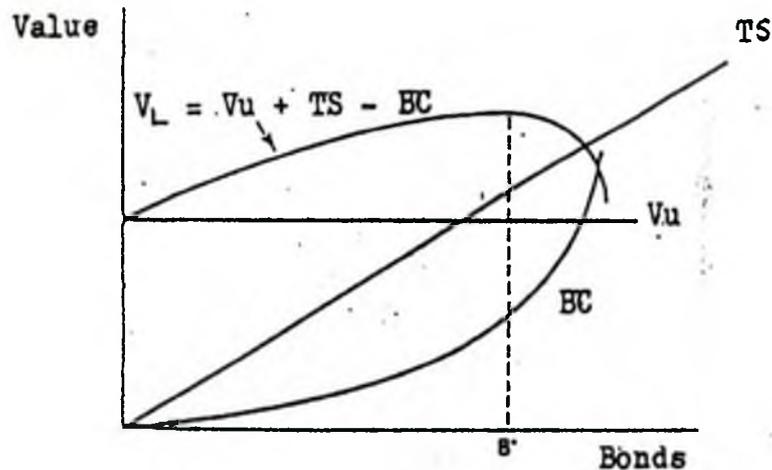
In the anticipation of bankruptcy, securityholders as a whole receive less than they would otherwise get. Thus the "dead weight" losses associated with bankruptcy cause the value of the firm to be less than the discounted present value of the expected cash flows from operations. To the extent that the levered firms have a greater probability of bankruptcy, their value will be less than that of unlevered ones. Although the probability of bankruptcy is not a simple linear or exponential function of the firm's financial leverage, current literature suggests that: i) bankruptcy is related to financial leverage, ii) suppliers of fund do pay attention to a firm's degree of financial leverage and iii) other things being equal, higher levered firms are viewed as being more risky than lower levered firms. Since the costs of debt and equity increase as the degree of financial leverage increase, and also because the firm recognizes the cost associated with bankruptcy risk, it trades off bankruptcy costs against the tax benefits of debt; consequently, there exists an optimal capital structure for the firm.

A number of theorists have considered the role of bankruptcy costs on firm's optimal capital structure (Scott, 1976; Lee and Barker, 1977; and Haugen and Senbet, 1978). In these models, firm value is characterized as follows:

$$V_L = V_u + TS - BC$$

Where, V_L is the value of levered firm, V_u , the value of unlevered firm, TS , the value of the interest tax savings and BC , the value of the expected cost of bankruptcy. Then, the optimal capital structure is found where the marginal benefits of using more debt i.e., the increment to the value of the interest tax

Figure-4.6
Firm Value, Financial Leverage and Bankruptcy Costs



savings just equals the marginal cost of adding more debt (the increment to the value of expected bankruptcy costs). These relationships are revealed from Figure-4.6. In perfect capital markets, all assets can be realized at their economic value so that there would be no financial loss from bankruptcy. However, in reality, the cost of bankruptcy is non-zero; yet the exact size of these costs is not fully established.

Modern analyses pay careful attention to the distinction between reorganization, liquidation and bankruptcy and indeed a major focus of concern has become the conditions under which the current bankruptcy code will lead efficient liquidation. At the same time, reflecting the trend in all aspects of corporate finance, attention is paid to problems raised by asymmetric information about the value of the firm's assets, strategic behavior, free-rider problems and to how they can be ameliorated by the bankruptcy code and more generally, the incentives of the various parties to a bankruptcy or reorganization. Note worthy also is the close attention paid to the details of the bankruptcy code. Going beyond positive analyses of the current code, some authors have even proposed modifications, which, they argue, will lead to an increase in efficiency (Brennan, 1995).

Evidence on Agency and Bankruptcy Costs

Due to the difficulties in observing agency costs, few empirical studies have been done on the application of agency theory to capital structure decisions. The problem of available proxies to measure theoretical construction has been a difficult problem for researchers. Titman (1983) and Lloyd (1984) attempt to overcome the proxy development problems. Both papers employ multiple regression analysis, but use different proxy measures. Titman attempts to identify the agency-equity concept by applying the problem of information asymmetry between managers and stockholders. He uses the price-earning ratio as a proxy for the firms' value in relation to their observable attributes. Although a positive relationship between this variable and debt level is predicted, yet regression takes place indicating a significant negative relationship.

Titman (1983) also examines the stockholder/debtholder relationship. The proxy used for this variable is research and development expenses divided by sales. Titman argues this proxy as a surrogate for expected growth alternatives. In his research, agency-debt cost should be higher for firms with higher ratios of research and development expenses as a percentage of sale. Lloyd (1984) examines the agency-equity proxy from a different point of view by attempting to determine the relationship between an agency-equity proxy and dividend policy. The proxy, an extension of the theoretical impact of ownership dispersion suggested by Fama and Jensen (1983), assumes that agency-equity costs are higher in a widely-held firm and lower in a closely-held firm. The proxy measure used is the percent of share owned by the largest shareholder group. An inverse relationship between this proxy and debt ratio would be expected because lower agency-equity costs would favor the use of equity over debt. Brealey et al. (1976) suggest that higher business risk firms tend to finance through short-term debt. This evidence supports the theory that debtholders recognize the increased potential of bankruptcy and require shorter maturity debt securities to ensure frequent renegotiation of interest rates and term of debts (Myers, 1977). Shorter maturities of debt would reduce the agency-debt cost by lowering the probability of increases in debtholder's risk.

There are also some evidences on agency problems that comes from acquisition announcement. Lewellen et al. (1985) find that negative returns are most common for bidders in which managers hold little equity, suggesting that agency problems can be ameliorated with incentives. Morck et al (1988) find that bidder returns tend to be lowest when bidders diversify or when they buy rapidly growing firms. Bhagat et al. (1990), Lang et al. (1991) and Comment and Jarrel (1995) find

related evidence of adverse effects on diversification on company valuation. Diversification and growth are among the most commonly cited managerial, as opposed to shareholder, objectives. Kaplan and Weisbach (1992) document the poor history of diversification by the US firms and the common incidence of subsequent divestitures. Lang and Stulz (1994) find that bidder returns are the lowest among firms with low Tobin's Qs and high cash flows. Their result supports Jensen's (1986) version of agency theory, in which the worst agency problems occur in firms with poor investment opportunities and excess cash. In sum, quite a bit evidence of points to the dominance of managerial rather than shareholder motives in firms' acquisition decisions

Better insights into agency problems are revealed by the studies that focus on managers directly threatened with the loss of positive benefits of control. These are the studies of management resistance to takeovers, which are now too many in number to survey totally. Walking and Long (1984) show that managerial resistance to value-increasing takeovers is less likely when top managers have a direct financial interest in the deal going through via share ownership of shares or when top managers are more likely to keep their jobs. Another group of studies reveals that, when managers take anti-takeover actions, shareholders lose, as for e.g., DeAngelo and Rice (1983) Jarell and Poulsen (1988) find that public announcements of certain anti-takeover amendments to corporate charters, like super-majority provisions requiring more than 50 percent of the votes to change corporate boards, reduce shareholder wealth. Ryngaert (1988) and Malatesta and Walking (1988) find that, firms that have experienced challenges to management control, the adoption of 'poison pills' also reduce shareholder wealth. Comment and

Schwert (1995) question the event study evidence given the higher frequency of takeovers among firms with 'poison pills' in place. On the whole, the evidence shows that managers resist takeovers to protect their private benefits of control rather than to serve shareholders (Shleifer and Vishny, 1997).

Before reviewing the empirical evidence that bankruptcy costs are a deterrent to the use of debt financing, we should note that some authors minimize their importance on theoretical grounds. For example, Haugen and Senbet (1978), argue that where there are significant costs attendant to bankruptcy there will exist an incentive for voluntary reorganization in order to avoid them; i.e., the owners, creditors or an independent investor group will observe the potential gains from avoiding a costly bankruptcy and proceed to reorganize the firm accordingly.

Previous studies by M-M (1958), Hamada (1969), Litzenberger and Kraus (1973), Mossin (1969), Stiglitz (1969) have shown that in taxless, frictionless markets where there exist no possibility for bankruptcy, changes in firm's debt equity ratio will not alter the total market value of debt and equity. Modigliani and Miller's (1963) article correctly accounts for the effect of taxes and proves that debt financing increases the value of the firm. Several recent studies have replicated the M-M results under restrictive conditions (Baron, 1974; Stiglitz, 1969). These studies have demonstrated that the M-M thesis is intact even in the presence of a positive probability of costless bankruptcy. A more general proof is provided by Stiglitz (1974) who has shown that the irrelevance of debt policy will flow if the individual is permitted to purchase equity on margin paying the same rate of interest as would the firm and using his equity as collateral for the debt. Stiglitz also invokes a costless financial intermediary that can reconstitute the firm

that alter its debt equity ratio. That is, value of the firm must be unaltered to the capital structure as long as a costless financial intermediary can be established to maintain the opportunity faced by individual investors. Under this framework, Stiglitz proves that the finite probability of costless bankruptcy has no effect on the value of the firm (Haugen and Senbet, 1978). Fama and Miller (1972) have argued that if the capital market is perfect then even if bankruptcy is possible firms can not alter the total market value of their outstanding securities by issuing or retiring any type of security. One of the conditions imposed by Fama and Miller is that securities must be defined so that they are protected against financing actions by firms or by individuals which would reduce the value of the securities without adequate compensation. Fama-Miller argue that not all of the liabilities of a firm are protected and they hold that issuance of secured debt can increase the value of the firm.

Although the original M-M thesis can be obtained under more general conditions yet in the presence of taxation it becomes troublesome since it nearly implies exclusion of equity financing. However, a number of authors (Baxter, 1967; Hirshlifer, 1970) have shown that bankruptcy costs may provide an economic rationale for the existence of a finite optimal capital structure and provide a reconciliation between the M-M theorem and the observed firm behavior. Kraus and Litzenberger (1973), Scott (1976), Kim (1978) have also introduced bankruptcy costs in their models. They argue that an optimal, finite debt equity ratio can exist, resulting from a trade-off between the expected value of bankruptcy costs and the tax savings associated with the deductibility of interest payments. The optimum is reached when the present value of the Government

subsidy is just offset by the present value of the expected bankruptcy costs. Higgins and Schall (1975) and Van Horne (1979) hold that bankruptcy costs are non-existent in the presence of perfect and frictionless markets. Warner (1977) estimated bankruptcy cost for 11 railroad companies. He concluded the direct cost, which averaged 1% of the market value of the firm prior to bankruptcy. However, his conclusions cannot be taken seriously as he failed to measure indirect costs. His estimates include direct costs, like lawyer's fees, accountants' fees, other professionals' fees etc. Indirect costs would include management's time and change in the cash flows resulting from shifts in the firm's demand and cost functions to bankruptcy. The belief is that indirect costs are substantial. The empirical evidence on bankruptcy cost is limited, hence, its impact on debt cannot be conclusively established. It is likely, however, that with the increase in size of the firm, the bankruptcy cost as a percentage of the value of firm would decline. Therefore, for large corporations, bankruptcy cost might not play an important role in determining the cost of debt. Warner's result suggests that the direct cost of bankruptcy is trivial and, therefore, do not significantly limit the use of debt financing. In this study, Warner did not consider the indirect costs associated with corporate bankruptcy. Kim (1978) argues that by giving non-trivial cost of bankruptcy there will be an optimal capital structure involving less than 100 percent debt. Debt should be issued until the tax benefit from debt is matched by the increase in the likely bankruptcy costs brought about by the debt issue. These studies supporting an optimal capital structure on the basis of bankruptcy costs have either assumed their existence as a result of some unspecified form of market imperfections.

The absolute priority rule was found to be more commonly observed in the breach than the observance by Franks and Torous (1989) and one studied by Warner (1977) and later by Wruck (1990), the direct cost of bankruptcy appeared too small to carry out their assigned task in the theory of capital structure. Haugen and Senbet (1978) argued that capital structure theories that relied on bankruptcy costs implicitly neglected the possibility of informal reorganizations and workouts. Moreover, Haugen and Senbet (1978) argue that where there are significant costs attendant to bankruptcy there will exist an incentive for voluntary reorganization in order to avoid them. That is, the owners, creditors or the investor group will observe the potential gains from avoiding a costly bankruptcy and proceed to reorganize the firm accordingly. The costs of bankruptcy are not limited to those of formal bankruptcy e.g., a firm seeing the probability of bankruptcy may be tempted to accept extremely risky projects in the hope that a large payoff would solve the company's problems, while a larger loss would only precipitate bankruptcy. These indirect opportunity costs of bankruptcy may be much greater than that of the direct costs. Thus, even if the direct costs are negligible, the effects of the possibility of bankruptcy on the capital structure decision cannot be ignored.

DeAngelo and Masulis (1980) offered a model of the corporate use of financial leverage and interpreted its empirical implications. Their model predicts that capital structures will be sensitive to changes in i) leverage costs (bankruptcy, reorganization or other agency cost of debt), ii) the corporate tax rate, and iii) the investment tax shield. Friend and Hasbrouck (1986) provide another test of the fundamental determinants of a firm's capital structure. They included variables related to the proportion of the firm's stock that insiders hold. The rationale for

including this variable relates to an agency type argument wherein the owner-manager utilize less debt than outside owners would desire since they face a greater risk of loss in the event of firm failure i.e., bankruptcy. It is argued that the insiders, have a larger stake in the firm than outside investors due to both their large holdings of the firm's marketable securities and their investment of human capital in the firm. If, as a result of these factors, the insiders are generally less well diversified than the outsiders, they will find in it their best interest to try to reduce the firm's exposure to financial risk. Thus, this agency argument appeals to 'managerialism' or the notion that managers make financing decisions that reflect their own interest rather than those of the firm's shareholders. They found a negative correlation between the size of insider holdings and the firm's debt ratio and concluded that insider ownership exerts negative influence on corporate financing decisions.

Another cogent argument can be put forward for the relevance of bankruptcy costs. This relates to the losses suffered by the firm's managers when the firm fails while under their guidance, that is, a devaluation of their human capital. Management therefore will seek to avoid this circumstance even though the costs to the firm's shareholders may be insignificant. The loss in the firm value resulting from management's attempt to avoid risk of failure underlying financial leverage thus can be thought as an agency cost the firm's owners bear (Martin et al., 1988).

Few empirical studies of agency and bankruptcy theories have extended the analysis of capital structure determination to the international sector. Most of them have offered conflicting results and have concentrated on a very limited range of explanatory variables. Remmers et al. (1974) test for industry and size effects in

Japanese capital structure and concludes that the effects are important but less than expected. Toy et al. (1974), in a similar study examine the effects of growth rates (measured as percentage change in assets for the previous five years), profitability (ratio of EBIT to total assets), and business risk (variance in EBIT) as determinants of capital structure for several countries including the US and Japan. He finds growth rate positively related to debt use and profitability negatively related to the use of debt. The predicted relationship shows that high variance in EBIT becomes negatively correlated to the use of debt. However, Naidu (1983) does not support a significant industry effect in five Asian countries excluding Japan. Similarly, Collins and Sekely (1983) also do not support significant industry or size effects in a group of nine countries in their study. Errunza (1979) finds a significant industry effect in Central American firms.

As noted earlier, the debtholder-equityholder conflicts are not likely to be severe in Japan as they are in the United States. In Japan, bank plays a much larger role in financing of corporations. They hold both corporate debt and stock in companies to which they lend, and their representatives typically sit on corporate board of directors. Thus, debtholders have more control of the day-to-day activities of companies in Japan, and, with bank debt more prevalent, free rider problems have less relevance in Japan. This suggests that variable like Research and Development expenditures, which serve as a proxy for future investment opportunities, may be less related to financial leverage ratios in Japan than in the United States. Prowse (1990) found that the negative relationship between R and D expenditure and leverage is weak in Japan. These findings stand in sharp contrast to those in the United States. In another study Prowse (1990) showed that compared to the USA

Japanese financial institutions take large equity positions in firms where they lend, particularly in firms more susceptible to the agency problem. He concluded that the agency problem was mitigated more in Japan than in the USA.

Dodd (1986) empirically tests Japanese and American corporations focusing on cross-sectional differences in debt ratios between firms based in these two countries. He concludes that the relationships of agency variables and debt ratios are significantly different between Japanese and American firms. Prowse (1989) examines the implications for firm financial behavior of institutional and regulatory environment of the firm's investors in Japan and the US. His study suggests that institutional difference between the two countries does affect firm financial behavior, and institutional and regulatory environment of the firm in Japan may enable firms to mitigate the agency costs involved in issuing debt.

Flath (1993) provides further evidence about how Japanese banks mitigate the debtholder-equityholder conflicts. He observed that, as in the United States, Japanese growth firms, which potentially have the greatest conflicts, are generally less highly levered than other Japanese firms. However, Japanese growth firms that have a banking-owner relationship, characterized by the bank's holding a significant fraction of the firm's stock, tend to be more levered than their counterparts without a banking relationship of this type. His evidence suggests that because banks are able to exercise more control when they hold shares, they can protect their interest and can thus offer greater amounts of debt financing in situations where potential conflict exists.

Haque (1989) empirically tested the Bangladeshi firms and finds that capital structure do significantly vary among industries and it has no significant impact on

firm's profitability, dividend and market value. Chowdhury (1993) using the U.K. and Bangladesh samples investigates agency problems and concludes that corporate governance and monitoring by institutional shareholders have some role in mitigating agency problems.

Recent work in capital structure has expanded into a coherent analytical structure building upon the major contributions starting with the development of agency and bankruptcy theory. Analysis of the nature of the firm has broadened in studies that have included agency and information problems. Characterizing the firm not as an atom of analysis but as a set of contracts among suppliers of capital and the factors of production, researchers have identified several sources of agency costs and have shown the relationship of portfolio diversification to the separation of ownership and control. They have also identified signaling mechanisms by which costly information of uncertain validity may be effectively distributed and certified. Moreover, an understanding of how agency considerations arise and how they affect the prices of financial securities can improve the appreciation of various business transactions and provide insights to the firm for reducing their undesirable effects. More important, a good understanding of the agency relationships implicit in contracts can be used to design procedures that can lower these agency costs and, thereby, benefit all participants in the business organization. In addition, agency theory can help in understanding better why the different organizational forms of business exist, and which can help in designing of contracts best suited for specific business transactions. An examination of agency issues also yields a rationale for corporate takeovers.

Additional insight of capital structure has emerged with the development of bankruptcy theory. It is argued that if the transfer of ownership from shareholders to debtholders under default is costless, the probability of bankruptcy will have no impact on capital structure. But it is impossible to write contracts that specify clearly the right of claimholders under contingencies; the parties may precipitate a dispute, which may be reduced through formal bankruptcy proceedings. They are costly and involve substantial amount of firm's assets. Generally, shareholders end up paying for expected bankruptcy cost every time they issue risky debt. In addition, the expected cost of bankruptcy, if any, is to be borne by the shareholders if debt is sold to rational investors and thus bankruptcy costs are similar to other agency costs in this respect. In this regard, Myers (1986) rightly pointed out that, "Bankruptcies are thought of as corporate funerals. The mourners (creditors and especially shareholders) look at their firm's present sad state. They think of how valuable their securities used to be and how little is left. Moreover, they think of the lost value as a cost of bankruptcy. That is the mistake. The decline in the value of assets is what the mourning is really about. That has no necessary connection with financing. The bankruptcy is merely a legal mechanism for allowing creditors to take over when the decline in the value of assets triggers a default. Bankruptcy is not the cause of decline in value. It is the result".

Chapter 5

Agency Relationship and Corporate Governance in Japan and Bangladesh

The issues of agency costs and corporate governance are of immense importance both to the policy makers and individual firms and are subjects of much debate and empirical research. The economic literature and literature on human behavior suggest that every rational individual tries to maximize his/her own utility to satisfy various needs. When the decision maker is not the owner there are chances of frustrating owners' interest and needs. According to the famous managerial theory of Berle and Means (1932), separation of ownership and control takes place through dispersion of company ownership to a large number of individual and concentration of control in managers. Thus, 'company ownership without control' and 'managerial control without ownership' has been recognized. Therefore, there arises the need to identify potential areas where an individual or group tries to work for their self-interest at the cost of others. It is also essential to device control mechanism in order to check and mitigate these opportunistic behaviors. The modern corporate governance literature has treated this separation as the efficient response to economic forces. It is held that the increasing complexity of business is a more important cause of separation than the dispersion of stockholding. Existing owners lack the skill and information necessary either to run modern corporations themselves or to monitor the decisions of those who do (Chandler, 1990). Efficiency became the standard in the corporate governance debate. To increase the value of the corporation, control is delegated to managers with specialized

skills. But this delegation also gives managers the discretion to advance their own agenda at the shareholders' expense. The purpose of corporate governance is to minimize the sum of the costs involved in aligning managers' and shareholders' incentives and in unavoidable self interested managerial behavior (Jensen and Meckling, 1976). Corporate governance, in general, indicates the policies and procedures applied by a company in attaining its set objectives, its corporate missions and visions as regards to its stockholders, employees, customers, suppliers and different regulatory agencies and the community at large. Corporate governance is the practice followed by the corporate policy makers to ensure that their efforts are guided to yield the desired result. In a normative sense, it prescribes a code of conduct of the corporate behavior to all stockholders, external and internal. In another way, corporate governance is the process by which the capital market monitors the actions of corporate management and holds management accountable for its decisions. In the corporate context, governance issues are thrown into stark relief by events such as takeovers, shareholder meetings and proxy contests, as well as controversies surrounding board composition and executive compensation. More routine decisions involving the allocation of physical, human and financial resources, capital budgeting, expansion of the firm's boundaries, and labor negotiations are also affected by governance. Thus, corporate governance provides a means of decision-making process, which maximizes value for the shareholders in a fully transparent manner. Those who matter most in the process should make themselves accountable to the appropriate authority. Such process again takes into account laws and regulations and voluntary practices used to direct and manage the business towards enhancing

business prosperity. For a group of people working in a particular economy, corporate governance is a culture and for an individual it is a mindset. Since business practices vary from country to country and through time, there can be no single generally acceptable model of corporate governance. This chapter will focus on the relationship between agency theory and corporate governance structure and also shed light on Japanese and Bangladeshi context.

Agency Framework in General

Modern corporations are run by a management team that raises funds to acquire physical capital and to finance initial operation by issuing and selling equity shares or by borrowing from banks or other lenders (debt). For the equity funds the corporation gives stock that are claim on a proportionate share of the net proceeds of any activity undertaken by the corporation after all obligations have been paid. These securities can take a variety of forms but generally they are referred to as stockholders or shareholders. On the other hand, debtholders get a promise of repayment that has priority over any payment made to shareholders and that is sometimes secured by the assets of the company. Generally, lenders charge fixed rate of interest for the use of their funds and their claim against the company is limited to the outstanding principal and interest on the loan. As the payments to the shareholders are paid last, they are said to have a residual claim. Shareholders may get nothing if the revenues of the business are not sufficient to pay the debtholders, suppliers and employees and still have funds leftover.

The distinction between debt and equity is the fundamental to the way corporate governance works. As mentioned earlier, in general debt claim provides the

holders a fixed repayment schedule but little in the way of rights to control the company as long as the repayment schedule is met. Debtholders can have a strong influence over a company if it gets into financial trouble. However, even if a company is financially sound, debtholders can influence whether it can obtain additional financing for new projects. On the contrary, equity claims give shareholders the right to vote for board of directors and on other important issues such as merger or any plan that would dispose of a substantial portion of the company's assets. Moreover, equityholders receive dividend only at the discretion of management and except liquidation have no direct claim on any of the underlying assets of the company. Thus, in widely traded companies they have only a nominal amount of control in ordinary times. In general, separating shareholders from management raises four types of governance problems:

- i) For efficient operation management must have enough flexibility to take risk, strategic decision and taking advantage of investment opportunities. Generally, management cannot present every decision to a shareholder vote, but if it could, shareholders who are not associated with the operations of the company would not be able to make informed decisions. Moreover, management must be prevented from abusing its power and positions by spending resources that benefit management at the expense of the shareholders. Thus, shareholders need devices for effective monitoring and restraining management.
- ii) A small, cohesive group of shareholders with a large total share of equity might be effective at monitoring management. But if they are given superior control rights, then their power must also be restrained to prevent them from taking unfair advantage of other shareholders.

iii) For effective monitoring commitment of time and resources is necessary for investors. But in general investors prefer the advantages of liquidity and diversity of their portfolios that may not be consistent with the time and resource commitment involved in monitoring.

iv) Investors require reliable and accurate information using consistent measuring and accounting principles. But any measure of performance can provide deceptive information or distorted incentives by encouraging managers to focus attention on inappropriate goals.

The application of agency theory to the area of corporate governance has been developed over many years (Pratt and Zeckhauser, 1985). Indeed, arguments have been put forward (Fama, 1980; Fama and Jensen, 1983) that the operation of agency theory makes other forms of regulations or sanctions over managerial behavior largely irrelevant. The managers of a company are the agents of the shareholders because, in almost all such modern corporations, the shareholders have delegated day-to-day control of the business to these full time paid managers. In many cases, these professional managers have no significant personal investment in terms of ownership of the company. Therefore, their remuneration is not automatically linked to the financial return received by the principals, i.e., the shareholders.

The basic theoretical framework underpins most economic analysis of governance issues. This was first outlined by Jensen and Meckling in 1976. The corporation begins with a single entrepreneur who wishes to secure additional resources including capital, labor and managerial talent. The founder is assumed unable to write contracts that fully map out the corporation's future for every

conceivable circumstance, such as booms or recession, war or peace or the presence or absence of major technological innovations. The contract will be completed by the discretionary actions of other parties, including but not restricted to 'nature'. These actions are discretionary in the sense that there will be decisions on which the contract is silent. Essentially, the founder chooses the firm's charter provision, its top executives and the terms of its contracts with suppliers of capital and labor and also the set of corporate laws and regulations.

While the charter and other ex-ante contractual features do not set out in detail specific actions to be taken, the founder can influence indirectly the identity and incentives of the parties who will make the decisions. Some decisions are subject to a vote of shareholders, some are made by the board, while others are essentially left to the managerial discretion. Although many decisions are subject to the discretion of shareholders and or managers, we assume that expectations of all such actions are priced ex-ante, i.e., all affected parties form rational expectations about the actions the relevant decision makers will take while insisting on receiving at least their expected utility levels ex-ante. With the exception of public choice approach it is generally assumed that the founder will choose to set up efficient structures in order to pre-commit executives to use decision-making authority in ways that take account of the costs and benefits the decisions will occur.

The model of governance involves ex-ante stage in which market prices and contracts are formed, and ex-post stage in which actual decisions are made (Williamson, 1985). We concentrate on the sub-game perfect equilibria of contracting games, all of which share the following contracting games. The

founder first selects the legal jurisdiction plus key elements of the firm's charter; investors, choose actions; executives take some other action i.e., decisions on investment; and finally, nature resolves uncertainty and legally binding element of any agreement executed. If the world of corporate governance is accurately depicted as a standard principal-agent problem involving only shareholders and a top manager, then the observed decoupling managers' and shareholders' wealth would be inefficient (Garvey and Swan, 1996).

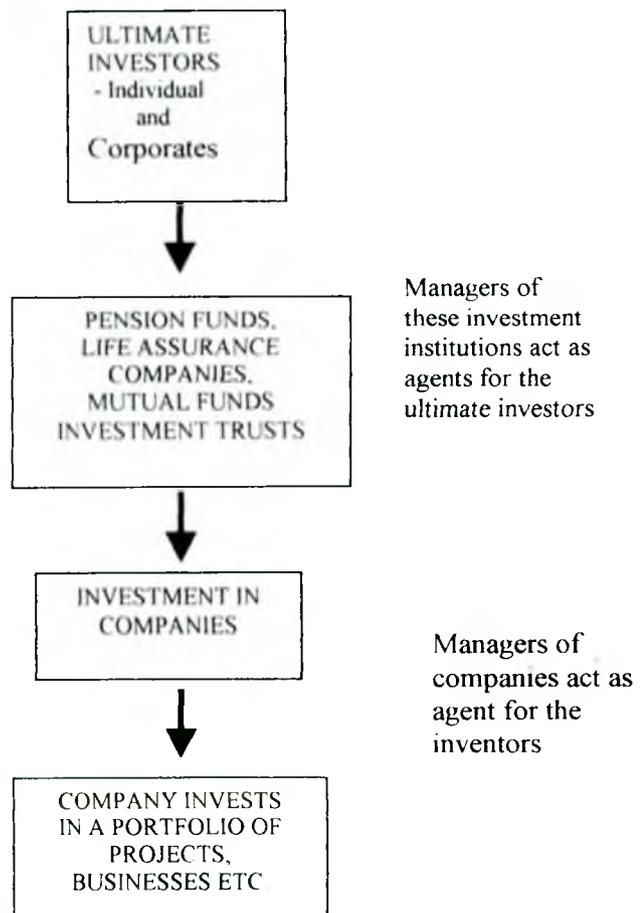
It should be impossible for the management to act other than in the best interest of the principals i.e., the shareholders, if agency theory works effectively. These shareholders should utilize their ownership power to force management to behave in accordance with their wishes. Their ultimate sanctions are either to sack the management team directly or to sell control to new owners, who then change the top management. There was some expressed concern that developments in the 1970s and early 1980s might indicate a breakdown in the effective working of agency theory concept. A number of very large, highly diversified, low dividend paying conglomerates started to build up huge piles of net cash from the operations of their mainly mature business units. These large cash deposits were almost all invested in financial markets and consequently earned a low risk deposit, i.e., debt based level of return. It is very difficult to argue that this creates any shareholder value for professional investors who could, presumably, invest such funds at least effectively if they were given the chance. The gross debt based return is reduced still further before it reaches the shareholder by the management cost incurred by such conglomerate (Ward, 1996).

However, some degree of faith in agency theory was restored in the second half of late 1980s with the targeting of several of these managerially focused groups by corporate raiders. Such raids highlight the potential for a badly designed financial strategy to destroy shareholder value because most successful corporate raiders do not change the detailed competitive strategies within the group they take over. Not surprisingly, this 'efficiency enhancing role' of the corporate raider has created a considerable response from senior management teams of possible targets, and many overall corporate strategies have been rapidly altered. However, the interesting development academically has been in the increased debate about the role of major shareholders. In the US and the UK, these major shareholders are now professionally managed institutional investors as they control, by value, over two third of their domestically held equity market. Historically, most of such institutional shareholders took a relatively passive role as long-term investors in a company accepting delegation of running business to the incumbent management team. This seemed relatively logical as most of these professional fund managers are investing funds on a long-term basis and could look for companies which are likely to develop and maintain long term sustainable competitive advantage.

More recently, this position has started to change, as both effective sets of principals in this two-stage agency set up have become more demanding of their agents. As shown in Figure-5.1, these professional fund managers are both principals and agents, since they are located in the middle of the expanded investment process model. They are clearly the agents of the ultimate investors in their funds but normally they have been delegated substantial levels of discretionary powers regarding the specific investment they make. This asserts that

from the perspective of the senior managers of companies seeking to attract and retain such important shareholders, these fund managers assume the role of direct principals to their managerial agents. As long as there is total goal congruence between the fund managers and their real principals, this added complexity does not need to damage the effective operation of agency theory. However, if fund managers in total dominate the market it is, of course, impossible for all of them to outperform the market, which itself increases competitive pressure.

Figure-5.1
Two Stage Agency Model



Source: Ward, 1996

This inevitably focuses the attention of some fund managers on investment where they perceive an opportunity for a relatively short-term return well in excess of the total market. Such opportunities are most commonly found through acquisitions, mergers and corporate raids, so that many fund managers have a much more open minded attitude to the attractions of a potential bid for any company than would have been the case in the past. The effect of this pressure on professional fund managers for short-term performance can easily be converted, through their role as 'perceived principals' to increased demands for short-term performance in terms of total returns from their agents, i.e., senior company managers. It is argued that this restricts the company from making the optimum long-term investment decisions, which needed to develop and maintain sustainable competitive advantages. This argument is based on the age old economic rule that maximizing long-term return is not necessarily achieved by maximizing the return in each of the short-term periods making up long-term? However, its application is in direct conflict with the theory and empirical research of the way in which capital market operates.

As mentioned earlier, if long-term competitive strategy requires expenditures in short-term, which will result in lower profits, there is no reason to assume that this will lead to a collapse in the share market. If long-term opportunities for the company can be seen to have been significantly improved, the share price should correspondingly be increased. It appears that many senior managers do not trust the capital markets to respond totally rationally to signals where short-term accounting indications are in conflict with long-term strategy of the company.

the corporate charter, corporate bylaws, and the state, can significantly reduce the dysfunctional aspects of owner manager separation. By encouraging competition and mutual monitoring and by designing compensation contracts, agency problems can be minimized. The imposition of restrictions on residual claims through alternative organizational forms can also mitigate agency problems. An external factor that can be highly effective in resolving agency problems is the threat of outside forces for taking control of the existing management. The threat of takeover by outsiders, through the market for corporate control, can cure managerial optimism. Moreover, competitive pressures in the managerial labor markets can help regulate the managers' behavior. Other external devices include corporate governance by means of institutional regulations and threat of lawsuits, capital markets that denied bad managers' access to capital, and high debt heightened fear of bankruptcy.

Agency Cost Containment Devices and Internal Governance

Here we provide an insight into the several policies that a corporation can adopt to minimize potential inefficiencies caused by intensive misalignments between the shareholders and the managers.

The equityholders bear the residual risk in the corporation, and so it is their interest to ensure that the corporation runs efficiently. However, the shareholders do not run the business on a day-to-day basis. Rather, it is the management that gets its hand dirty in keeping the operations alive. This corporation also needs to give some individuals control over managers' activities so that they are constantly monitored. This monitoring function is intended to assess the extent to which

shareholders and owes them the same fiduciary duties as mentioned earlier. In another way, a corporation's board of directors injects its vision of the corporation's future into daily operations by exercising its board and powerful control rights through supervision and veto unwise management decisions.

In addition to the board's function as a control device, there are other control mechanisms. Competition and monitoring between managers can reduce agency problems, and in most corporations there exists a chain of command. Generally, employees are accountable to their immediate supervisors, who in turn report to the managers. Thus, the higher-level authorities in the corporations control lower-level managerial activities. This monitoring characteristic feature by the hierarchical organizational structure has the effect of lowering the agency costs within the corporation.

Shareholders do not, in principle, need to sell hostile bidder in order to influence management policy. They can exercise their voting rights to elect a new state of directors, or even in some cases to recommend about explicit actions taken by management (DeAngelo and DeAngelo, 1989). With the chilling experience of corporate control market many large institutional shareholders, including public pension funds, have sometimes attached successfully to influence corporate decisions (Pound, 1988).

Manne (1965) argued that competition for the votes generally attached to equity shares was the most important force driving managers to maximize shareholders' wealth. Certainly many takeovers in the 1980s bear out this view that gross managerial slack can be pruned by hostile takeovers or the threat there of (Agarwal and Walking, 1991; Jensen, 1988; Martin and McConnel, 1991; Davis

and Stout, 1992). While the takeover threat is clearly a force that motivates managers to look after their shareholders, it has distinct limitations. Hostile takeovers are, after all, rare in Germany and Japan (Kester, 1991). Even in the US, regulatory development and chilling of the junk bond market have substantially dampened the takeover market (Jensen, 1993). It is observed that the threat of hostile takeover places only broad limit on the degree to which managers can run the corporation in the interest of the parties other than shareholders (Garvey and Swan, 1996).

The assumption that managers act in the shareholders' interest is not always justified by reference to their explicit financial incentives. Fama (1980) takes extreme view that even if management compensation were formally unrelated to share price, top managers would still seek to maximize shareholders' wealth in order to protect or enhance their reputation in the managerial labor market. Holmstrom (1982) shows that this conclusion is optimistic and that reputation will rarely reduce agency costs to zero. Recent theoretical research casts doubt on the notion that reputational concerns drive managers to act in the shareholders' interests. Holmstrom and Costa (1986) show how reputation can take the form of career concern that actually encourage managers to act counter to the interests of the shareholders.

Since agency problems arise from the wedge of incentive misalignment between the owners and the managements, an efficient approach to minimize this wedge is through compensation contract. Managerial compensation contracts may be of short-term and long-term duration. Other compensation contracts may be classified as: criteria used in evaluating manager's rewards, profits, earnings, stock price,

dividends and the like. Depending on the nature of agency problems, different compensation plans are effective. However, there are different alternative arrangements, such as, stock options, bonus plan etc.

Agency Cost Containment Devices and External Governance

The rights delegated to the top-level managers involve the day-to-day management of corporate resources. These rights legitimize the daily management decisions necessary to ensure smooth and continuous operations i.e., the right to hire and fire within the organizational structure and to develop and implement corporation-level operational policies and procedures. From the comparisons between the board-level and manager-level rights, we observe that board-level rights are those that control the corporation and the term 'corporate control' refers to these rights. Because the value of the corporation is directly controlled by the usage of the corporation's resources, it follows that control has economic value. Although the separation of management and control can reduce agency problems, its effectiveness depends on the extent to which the directors discharge their duties. The potential benefits from separation may evaporate if the board of directors neglects their duties. In this situation external forces can play a crucial role in mitigating agency problems. The available literature suggests that although the directors serve a critical function in the governance of corporations, they have traditionally been characterized as figureheads with little real control over the management's actions.

There exists a growing awareness of the power wielded by boards, and so board of directors is facing increasing pressure from the shareholders, especially institutional investors that hold lion portion of stocks and actively vote for their

shares at the annual general meetings. Even small shareholders are prodding directors into action through director liability suits, which are being used more frequently and for escalating damage amounts.

Recent years have characterized the development of a 'market' in which groups or individuals from both inside and outside the corporation bid for the control of desired target corporations. Following this process, the control of poorly managed corporations is transferred to the managers who can efficiently allocate the corporation's resources. Thus, a board's rights are valuable to groups or individuals interested in taking over a company. The management teams that compete for corporate control can assume several forms. The competing management teams engage in takeovers and try to capture the gains they expect from the various synergies generated by a combination of two or more corporations. These synergistic effects can arise from any combination of operating economies, differential managerial efficiencies, increased market power, but in any case, the threat of takeover that can destroy their jobs and perhaps their careers puts considerable pressure on board of directors and managers alike to put the company's interest before their own immediate objectives and, thus, minimize agency costs. In addition to the takeover market, the market for professional managers can restrain them and, thus, hold agency problem in check.

Although the corporate form of organization has the most severe agency problems, it continues to dominate the economic scene. Seemingly, the benefits from being organized as a corporation exceed the costs of agency relationship. To some extent, this negative feature of the corporation may be reduced by the internal and external devices that can contain agency costs. Agency costs can be

minimized within the firm by internal control devices such as the separation of management and control. The corporation's board of directors can oversee the corporation's operations and resolve problems associated with conflicts of interests. Moreover, mutual monitoring among the various managers may reduce agency problems. Internal governance procedures stipulated by the articles of incorporation and bylaws can provide additional guide to managers' action. Another effective way to limit agency costs is to design managerial compensation contracts that contain provision to penalize managers when their actions are not consistent with the corporate goals. However, the internal governance devices for reducing agency problems are not always effective. On the other hand, board activism and the takeover market can be constant reminders to managers that they should make decisions consistent with shareholders' wealth maximization.

Corporate Governance System in Japan and Bangladesh

The issue of corporate governance has attracted wide spread attention throughout the world. It is not confined to the developed economies. Much importance has been given in this area and a growing demand for worldwide reform has been recognized. Corporate governance has received new urgency because of global financial crisis and major corporate failures that shock major financial centers of the world. Research on corporate governance across the countries has focused on diverse elements of countries' financial system as the breadth and depth of their capital markets, corporate ownership structures and the law and regulatory environments and the protection of outside investors and the protection to shareholders and debtholders by the legal system. There are two distinct forms of

governance system developed for large corporations in economic and financial literature i.e., the Anglo-American type and the Japanese–German type (Aoki, 1992). The Anglo-American type is dominated by shareholders' interest through the market corporate control, board of directors and direct intervention by large stockholder. On the contrary, in the Japanese-German type, the large block of stable shareholding by financial institutions and the prevalence of interlocking shareholding effectively prevent hostile takeovers and, hence, the average shareholder would seem to have very little influence. Nonetheless, as Roe (1993) points out that senior managers in Japan and Germany are not at all powerful, with power actually being shared by managers and active financial intermediaries. In view of the above characteristics we will provide some insights into the corporate governance structure of Japan and Bangladesh.

Japan's distinct system of industrial organization and corporate governance, widely known as the *keiretsu* system, has been the focus of much academic and policy attention. *Keiretsu* is used to refer to various forms of inter-firm relations or sets of closely affiliated firms and, more particularly, to the system whereby cross-shareholdings exist between firms and their main business partners – not just input suppliers and customers but, importantly, main bank and other key financiers. The other important focus is on the financial organization of Japanese firms, mainly the main bank system and cross-holding system and considering these as the cornerstones of the system of Japanese corporate governance system.

In an endeavor to shed light on the corporate governance structure of Japan and Bangladesh let us look into the present state of Japan, the US and Bangladesh capital markets and the characteristics of major shareholder in these countries. We

have also incorporated the US because it is one of the largest economies of the world.

Table-5.1 reveals the underdeveloped characteristics of Bangladeshi financial markets. There were only 233 listed companies in 2000 and the market capitalization is also very low compared to the US and Japan. Total market capitalization amounted to \$0.8733 billion, or 1.86% of the Gross Domestic Product, compared to \$ 3600.06 billion (76.5%) in Japan and \$5,0187.7 billion (74.5%) in the US. Market capitalization adjusted for inter-corporate shareholding reduced to \$1281.8 billion (27.1%) for Japan and \$4,737.7 billion (70.3%) for the US. Trading volume of Bangladeshi corporations does not reach the American and Japanese standards and stocks are traded in rather thin markets. The nominal value of outstanding bonds equaled \$4394.9 billion (93.4%) in Japan and \$5,885.4 billion (87.4%) in the US. Unlike Japanese and American bond markets, Bangladeshi bond market is dominated by the Government. In Japan and in the US private financial institutions occupy only 18.0 % and 16.1 % respectively. Bangladesh's non-financial enterprises do not have direct access to primary debt markets. In Bangladesh private non-financial enterprises account for only 2.46% of all outstanding bond compared to 9.8% in Japan and 21.3% in the US. The average debt-equity ratio of Bangladeshi firms is 0.70 (approximately), which is low compared to the American and Japanese cases. The actual difference in size between Bangladeshi and the American or Japanese markets is even larger considering that the data for Bangladesh are based on all domestic corporations which are listed on at least one of the Bangladesh's two stock exchanges, whereas the data for Japan and the US are limited to domestic corporations listed on Tokyo

Stock Exchange, New York Stock Exchange and National Association of Securities Dealers Automatic Quotations (NASDAQ).

Table-5.1
Comparison of Japanese, the US and Bangladesh Capital Markets

	US 1994	Japan 1994	Bangladesh 2000
<u>Stock Market</u>			
Number of listed corporations	6923	1689	233
Market capitalization of listed corporations (in billion dollars)	5018.7	3600.6	0.8733
Market capitalization adjusted for intercorporate-shareholdings	4737.7	1281.8	N.A
Market capitalization as a percentage of GDP	74.5	76.5	1.86
Adjusted market capitalization as a percentage of GDP	70.3	27.1	N.A
<u>Bond Market</u>			
Nominal value of outstanding bonds (in billion dollars)	5885.4	4394.9	0.9177*
Nominal value of outstanding bonds as a percentage of GDP	87.4	93.4	1.90
Nominal value of outstanding bonds issued by (percentage of total in parentheses):			
Government and Government Agencies	3465.6 (58.9%)	3090.0 (70.3%)	0.8951 (97.54%)
Private financial enterprises	947.2 (16.1)	789.5 (18.0%)	N.A
Private Non-financial Enterprises	251.7 (21.3%)	432.8 (9.8%)	0.2196 (2.46%)
Foreign Institutions	220.9 (3.8%)	82.6 (1.9%)	N.A
Debt-equity ratio of domestic corporations	0.87	3.98	0.70(Apprx.)

Sources: Reports of the respective Stock Exchanges, Corporate Annual Reports, Dhaka Stock Exchange Review, Tokyo Stock Exchange Fact Book, OECD Economic Indicators

*This figure includes outstanding Government and outstanding Corporate bond; it is available in Taka which has been converted into \$ @ Tk.50 per \$

Japanese corporations differ considerably in structure from Bangladeshi corporations. The fundamental management differences between Japanese and Bangladeshi corporations are shown in Table –5.2.

Table – 5.2
Japanese Management Vs. Bangladeshi Management

Management	Japanese Firms	Bangladeshi Firms
Goals	Market Share	Return on Investment
Strategies	Long-term	Short-term
Main Function	Production, Selling and Research and Development	Production, Selling, Finance and Planning
Organization	Organic	Mechanic
Main Member	Employees	Stockholder
Relation to Stockholder	Keiretsu and Open market	Open Market and family group
Business Transaction	Long	Short

It is revealed that in Bangladesh corporations might be considered as the organization of the stockholders or a property of the stockholders both in reality and in terms of law. The relations between the stakeholders such as managers, employees, workers, stockholders, suppliers, dealers and the corporations are basically short spot transactions. On the contrary, in Japan majority of the corporation is in reality the cooperative system of employees, managers, customers, suppliers as well as stockholders. In this system the main members are not stockholders but employees. Stockholders have been less powerful and employees most powerful members. Corporation is the second home for Japanese employees. The relation between stakeholders and a corporation is based on long-term transactions through market competition. Lifetime employment, *Keiretsu* and mutual shareholding have been realized by long-term transactions. Market share

goal and long-term strategies have also been constructed on them. Therefore, the firms have been continuous systems and lifetime employment has been practiced for a long time. This is a dominant view of managers and management scientist in Japan, but seems to be unpopular in Bangladesh. This comparison suggests that due to these differences in management patterns the corporate governance structure will be different in Japan and Bangladesh. Moreover, Japanese system seems to be more effective in this respect in mitigating incentive problems among claimholders and in evolving internal corporate governance mechanism.

Table – 5.3
Characteristics of Major Shareholders in the US, Japan and Bangladesh

	US	Japan	Bangladesh
1. Investment Objectives	Dividend plus Capital Gains	Integrated Financing and Business Relationships	Dividend Plus Capital Gain
2. Relationship with the Company	Short-term: Buy if share is underpriced; arm's-length outsider	Long-term Interlocking, business partner and insider	Short-term
3 Risk	Financial Risk	Business and Financial Risk	Financial Risk
4 Means to control Risk	Public Disclosure, Diversification, Fundamental Analysis	Sharing Information, Commitment to Management, Interlocking Relationships	Public Disclosure, Sharing Information, Diversification and Fundamental Analysis
5 Degree of freedom to sell	Maximum	Minimum	Maximum

Table-5.3 highlights on the characteristic features of shareholders in the US, Japan and Bangladesh. It is revealed from Table – 5.3 that there are similarities to the primary purpose of stock investment both in the US and Bangladesh i.e., to realize the maximum possible financial returns through dividends and capital gains. On the contrary, in Japan this is not the sole or even the main purpose of shareholding. Rather, it represents an important device to strengthen business

relationships between two companies or between a company and financial institution. Banks hold shares, but they also lend large amounts and provide a wide range of financial services. Insurance companies are principal shareholders that provide loan and hold bonds in addition to selling insurance products. Cross-holding also serves to promote mutual trust with cooperation between management of companies and financial institutions helping to protect both against the threat of takeovers. The relationship with the corporation is different i.e., short-term in case of the US and Bangladesh and long-term in case of Japan. The perceptions of risk and their treatment are different between Japan and Bangladesh. Moreover, the means to control has great implications; Japanese system rests on sharing information, commitment to management and interlocking relationships. On the other side, the American and Bangladeshi cases are characterized by reliance on public disclosure, sharing information, diversification and fundamental analysis. These differences in shareholders' characteristics suggest that the corporate behavior will be different in case of Japan and Bangladesh (Chowdhury, 2002).

Regulatory Environments

Capital market regulations determine the rights and obligations of capital market participants. Different regulatory environments may result in different capital market imperfections e.g., effective prohibition of insider trading may ruin the ability of the price mechanism to aggregate and transmit insider knowledge, whereas anti-takeover regulations eliminate the disciplinary effects of an active market for corporate control. Japan and Bangladesh show different regulatory environments. The characteristic features are delineated hereafter.

Japanese accounting, disclosure and auditing regulations are based on codified law and generally accepted accounting principles. Major legal requirements are contained in Commercial Code (CC) and the Securities and Exchange Commission Law (SEL). The provisions of the CC are primarily creditor oriented and apply to all corporations. On the other hand, the provisions of the SEL are primarily shareholder oriented and apply only to companies raising funds in the capital markets. Generally accepted accounting principles which have been established through business practices are promulgated by the Business Accounting Deliberation Council (BADC) of the Ministry of Finance under the title "Financial Accounting Standards for Business Enterprises". These principles provide interpretive guidelines and govern areas which are explicitly regulated by codified law. Moreover, Japanese financial accounting is heavily influenced by tax considerations (Dietl, 1998). On the other hand, following the tradition of English law, Bangladesh accounting standards are not based on codified law, but rely on Generally Accepted Accounting Principles (GAAP) developed by accounting profession. These principles are primarily shareholder oriented and are independent of tax considerations. In Bangladesh the companies have to make disclosure of information required by law. Disclosure requirements for Initial Public Offerings are defined by the Companies Act and the orders under the Securities and Exchange Ordinance, 1969. Periodic disclosure requirements are mentioned in the Securities and Exchange Rules, 1987. In comparison to Japanese provisions, Bangladesh accounting and disclosure requirements differ with regards to form, substance and frequency of financial reports.

public disclosure of the offer and notification of the Ministry of Finance and informing the target company. Target shareholders are protected against price cuts and price discrimination. Moreover, Japanese takeover regulations entitle shareholder to withdraw their agreement to tender during the entire period of their tender offer (Securities and Exchange Law Enforcement Order, Article 13 no. 8). In case of Bangladesh there is no specific rules in this area. Shareholders are subject to sufferings in this situation and law does not protect them.

Japanese financial intermediaries are subjected to diversification requirements. Investment trusts and insurance companies may not acquire more than 10 percent of a single corporation's outstanding shares. Moreover, insurance companies are not allowed to invest more than 30 percent of their assets into stock and cannot invest more than 10 percent of their assets into securities of a single corporation (Enforcement Order of the Insurance Business Law, Article 19 (1)). All other financial institutions, including commercial banks are restricted from acquiring more than 5 percent of a single corporation's outstanding stock. On the other hand, in Bangladesh, according to Section 2 (3) of the Insurance Act 1938, "approved securities" for investment means that Government securities and any other security charged on the revenue of the Government to be guaranteed fully with regards to the principal and interest by Government. This act does not include listed securities and, thereby, prohibits this fund to enter into stock market. Besides this, a sizable investment fund is available in different Provident Funds, Pension Funds and Trust Funds. Section 20 of the Trust Act 1882 provides that these funds can be invested in securities "fully and unconditionally guaranteed by Government". Besides, according to Section 54 (b) of the Cooperative Societies Ordinance

enacting favorable rules to maintain and formulate good regulatory environment that will be helpful for effective corporate governance.

Ownership Structure

As long as value creating activities are entrusted mainly to investors owned stock companies every nation faces the challenge of how to lower the cost of equity to a reasonable level. This goal is attained through public disclosure of information and providing necessary condition to create an efficient market. In Japan the policy is to achieve this goal through constructing longstanding and interlocking relationships among companies and between companies and major financial institutions. Such arrangements as stable shareholding and cross-holding of shares are an essential element in this. The stock ownership structures in Japan, the US and Bangladesh clearly reflect the differences in these two approaches. Japanese ownership is a complex network of implicit and explicit contracts among many different stakeholders (Kester, 1991). There are three major types of stockholder in Japanese firms i.e., individual stockholder, financial–institutional stockholders and other corporate stockholders. The ownership structure of Japanese firms is highly concentrated among corporate stockholders with financial institution occupying a majority of the stock holdings. A significant portion of Japanese industrial firms' ownership is represented by small group of enterprises (*keiretsu*) composed of different industries. These firms are interrelated through crossholding of equity ownership and reliance on large commercial banks for their financing needs. The *keiretsu* firms maintain close financial and personal ties through cross-shareholding, credit holding and interlocking directors within the group. Firms in

financial groups are usually related to each other by the following mechanism: i) The main bank is the principal lender to the group members; it owns a significant number of shares in group firms, and it often takes part in their management. ii) Group firms cross-hold shares and occasionally exchange personnel and iii) President Club (*Sacho-kai*) meetings are regularly scheduled between directors of keiretsu firms. The President Club is often considered as a mechanism of intra-group coordination (Industrial Groupings in Japan, 1994). These group firms operating in different industries but engaged in long-term relationships, exchange

Table – 5.4
Ownership Structure of Listed Corporations

	US (1992) %	Japan (1996) %	Bangladesh (1996) %
Household/Sponsor/Individual	49.8	23.6	72.5
Banks/Financial Institutions*	0.30	23.3	3.10
Insurance Companies	5.0	14.8	-
Pension Funds	29.3	-	-
Mutual Funds	9.0	-	-
Investment Trusts	-	2.1	-
Securities Companies	0.3	1.4	-
Non-financial Enterprises/ Other Financial Institutions	NA	1.2	-
Government/Investment Corporation of Bangladesh**	00	0.6	7.1
Business Corporations	-	23.6	-
Employee	-	-	1.3
Foreigners	6.3	9.4	16

Sources: *Zenkoku Shoken Torihikijo Kyogikai*, the US Flow of Funds, Dhaka Stock Exchange Fact Book,

* For Bangladesh there are no separate categories of shareholding by Insurance Companies that are included in Financial Institutions

** Our sample companies do not include the shareholding of Multinational Companies by Government. However, ICB being the Government Institution has been considered as Government holding.

equity stakes with each other, creating reciprocal voting rights. A credible mutual commitment is achieved once another firm in the group obtains a controlling stake in one firm. By pooling voting rights, the coalition can exercise control over any firm's strategic decisions and ensure that a manager acting opportunistically is fired. Management control is held in hostage in the keiretsu coalition to ensure commitment to efficient and corporate behavior (Berglof and Perotti, 1994). Thus, keiretsu relationship increases the monitoring of managerial performance (Kang and Shivadasani, 1995; Kaplan and Minton, 1994), limits discretion for earning management and therefore enhances the quality and predictability of accounting earnings. Moreover, close financial and business ties between the member firms allow credible exchange of information through direct or indirect participation in management. This relationship will reduce the agency problem and information asymmetry between managers and stockholders. Jacobson and Aaker (1993) compared the return earnings relationship between Japanese and American firms and found that Japanese investors are better informed about the future prospect of a firm than American investors. They hold that the result could be due to the reduction in information asymmetry that arises from the prevalent cross-shareholdings in Japan.

Ownership concentration appears to be more concentrated in Japan compared to the US and Bangladesh. However, the composition of ownership is different in Japan, i.e., banks have much larger shareholding. In Table – 5.4, a comparison of Japan, the US and Bangladesh stock market has been given. In Bangladesh, 72.5% of the outstanding shares are owned by households/sponsors compared to 23.6% in Japan and 49.8% in the US. Significant concentration is observed by bank and

financial institutions i.e., 23.3% in Japan compared to 3.10% in Bangladesh and 0.30% in the US. Financial institutions in Japan receive dividends and capital gains, but usually do not intervene in company management. They typically remain a “silent owner”. However, when a corporation encounters a serious financial problem, these financial institutions might intervene in management of the corporation. This intervention includes management replacement, restructuring, selling securities, employee firing and other actions. Foreign occupancy is highest in Bangladesh compared to the US and Japan. Another important observation is the occupancy by business corporations in Japan that accounts for 23.6%. In Bangladesh, business corporations are restricted from participating in this respect.

One of the important aspects of ownership structure in Japan suggests that the individual shareholders have a weak role in corporate governance system of the Japanese firms. According to this view, shareholders’ interest are overridden by those of other constituents of the Japanese firms, i.e., the employee, management and the firm’s main bank. The reasons are: i) Japanese corporations can raise funds by borrowing from the non-security segment i.e., banks at low cost, and they are not required to rely on equity financing. Therefore, their corporate policy can be made free of the interest of individual shareholders, ii) Individual shareholders are underprivileged in the sharing of returns as they receive a very small part of the profit as dividend iii) The position of shareholders of the Japanese corporations in the corporate governance structure is almost nonexistent. The board of directors is nothing but a self-perpetuating body of senior managers promoted from within the rank of quasi-permanent employees, not the organ through which the surveillance of the shareholders over the business and affairs of the company is

exercised iv) Interlocking corporate shareholding has developed to such a degree that the takeover of the corporations through open bids is virtually impossible. Management of corporation is thus free from the discipline exercised by shareholders through the stock market. It is argued that the position of the Japanese shareholder is that of passive investors because of the above-mentioned reasons. Moreover, the management is not an agent to stockholders, as envisioned in neoclassical model (Aoki, 1988). Dealing with time series data for the distribution of stockholding in all listed non-financial companies by type of investors for the period 1949-1986 Aoki observed the following phenomena of the stockholding structure:

- i) The relative share of individual stockholding has been steadily declining from 69.1 percent at the end of 1949 to 23.9 percent at the end of 1986.
- ii) The relative shareholding by financial institutions including banks, trust banks and insurance companies has been steadily increasing from 9.9 percent at the end of 1949 to 41.7 percent at the end of 1986.
- iii) The relative share of corporate stockholding has been steadily increasing from 5.6 percent at the end of 1949 to 24.5 percent at the end of 1986.
- iv) The relative share of investment trust (mutual funds) increased nearly 10 percent in the early 1960s, but declined sharply in the aftermath of 1964-5 stock market crash and remained at a low level throughout the 1970s and 1980s.
- v) The relative share of foreign corporations and individuals has risen to a non-negligible extent (it was 4.7 percent at the end of 1986) after the liberalization of international capital transactions in 1980.

As a result of these time series changes, the relative share of individual stockholding of Japanese firm was 23.9 percent at the end of 1986 and 29.2 percent at the end of 1980 and which is consistently lower than that of American companies i.e., 51.21 percent in 1980 according to the Securities and Exchange Commission. Also noteworthy is the dominating size of the holdings by financial institutions and business corporations. The combined share of financial institutions and non-financial corporations in the stock market of the Japanese firm was 15 percent in 1949, but passed the 50 percent mark in 1968 and reached almost two-third of the total stocks traded in the 1980s.

Gerlach (1993) proposes an underlying structure of share ownership in Japan that is shaped by a “logic of intercorporate, strategic interest,” where investors are concerned with a more complex set of goals than capital market returns. He holds,

Unidirectional relationships based on simple flows of equity capital have been replaced by reciprocal relationships based in complex flows of trade in capital, goods, and personnel..... The seemingly crisp categories of principal and agent become fuzzy as the managers of one firm become the owners of another, and in turn are held by managers of that firm.

Gerlach finds that ownership is dominated by firms’ trading partners and affiliated companies and that these alliance patterns are not limited to formal keiretsu groupings.

Gilson and Roe (1993) describe the Japanese ownership structure as a system of contractual governance, which influences both corporate governance and industrial organization. This system is intended to facilitate relational investments, of which financial capital is just one component. Cross-ownership can thus reduce the cost of information transfer and increase incentives and means of intervention by stockholder.

Moreover, the combined use of debt and equity creates a governance structure that alternates between mutual and hierarchical enforcement. Individual managers monitor each other through crossholding of equity and trade credit. This arrangement could be viewed as intermediate between the delegation of decision rights to one of the contracting parties (control rights) and assessing them to a third party (arbitration). By exchanging control rights among themselves, managers effectively turn themselves over as hostages to the coalition, thus creating a collective solution enforcing cooperation (Williamson, 1985). Thus, agency costs associated with debt should also be lessened as a result of Japanese corporate ownership structure. As discussed by Jensen and Meckling (1976) and Myers (1977), debt may create adverse investment incentives if opportunities exist to transfer value from creditors to equity owners. The conflict can be relieved by the extent to which ownership and credit extension are embodied within the same entity. Such a dual role is a salient feature of Japanese lenders. This is not common feature in Bangladesh where banks are prohibited from owning equity and coordinated efforts to combine debt and equity ownership beyond the issuance of equity linked debt securities.

The general structure of boards in Japan is different from those in other countries e.g., the US and Bangladesh. In Japan, usually there is a president, senior executive director(s) and other executive directors. The board is, therefore, hierarchically ranked rather than functionally divided, although there may also be functional divisions between executive directors. Thus, the major difference in Japanese board is that most of the executive directors will have formally been middle managers within the company who were promoted from inside. Therefore,

there is much less distinction between firm's managers and the board. In this regard, one of the important aspects of corporate governance in Japan is that major banks frequently arrange senior executives in late careers to enter client firms as senior managerial directors.

The current capital market scenario in Bangladesh is dampened by the lack of investors' confidence. Also due to the absence of the right mechanism to give boost, the corporate boards need to come forward to perform in it. The recently talked about issue of share buy-back systems is perhaps one of the important areas to immediately think about. This is a mechanism that is likely to work as an incentive for investors in absence of any other. The buy-back mechanism in some neighboring countries has of late been accepted. However, in our particular case, it may include the following:

- i) This should be a scheme for a default free company.
- ii) The Articles of Association must have the like provision and, if not, to be altered accordingly.
- iii) Company should explicitly announce the scheme, as per provision in the Articles, with the buyable extent reserved for it.
- iv) To allow to buy-back shares only up to a fixed percentage of its paid up capital and reserves.
- v) A time frame to complete entire buy-back process is needed.

The scheme, however, will require amendment of certain sections of the Companies Act 1994. Yet the responsibility lies more with upright corporate governance. It will be on the shoulder of the board to ensure justice to play. Certain steps will necessarily demonstrate fairness on the part of the management. To

prove itself motivated, the management has to: maintain a clear transparency in this respect, buy-back from the open market and ensure that monopolistic management does not arise because of the number of shareholders. The regulatory bodies and the stock exchange authorities must also come up with adequate watching devices to put control and devices in this respect.

Comparing our findings of the Japanese and Bangladeshi ownership structure Table – 5.5 gives the ownership structure in nine East Asian Countries. It suggests that in all East Asian countries, control is enhanced through pyramid structures and cross-holdings among firms. Voting rights consequently exceed formal cash flow rights, especially in Indonesia, Japan and Singapore. It further reveals that more than two third of the firms are controlled by single shareholder. Separation of management from ownership control is rare and top management of about 60% of firms that are not widely held is related to the family of the controlling shareholder. These findings have important implications for the ability and incentives of controlling shareholders to expropriate from monitoring shareholders (Claessens et al., 1999). They observed that extensive family control in more than half of East Asian corporations and significant cross-country differences exist. However, Japanese corporations are generally widely held while corporations in Thailand and Indonesia are mainly family controlled. On the contrary, state control is dominant in Indonesia, Thailand, Korea, Malaysia and Singapore. The separation of control of ownership and control is more prominent among family controlled firms and among small firms. In Korea, Singapore and Taiwan large family controlled firms also display a significant block between ownership and control.

Table-5.5 considered ultimate control at two cutoff levels i.e., 10% and 20% of voting rights. It is revealed that there are differences in the distribution of ultimate

Table-5.5
Control of Publicly Traded Corporations in East Asia

Country	Number of corporations	Widely-held	Family	State	Widely-held financial	Widely-held corporation
10% cutoff						
Hong Kong	330	0.6	64.7	3.7	7.1	23.9
Indonesia	178	0.6	68.6	10.2	3.8	16.8
Japan	1240	42.0	13.1	1.1	38.5	5.3
Korea	345	14.3	67.9	5.1	3.5	9.2
Malaysia	238	1.0	57.5	18.2	12.1	11.2
Philippines	120	1.7	42.1	3.6	16.8	35.9
Singapore	221	1.4	52.0	23.6	10.8	12.2
Taiwan	141	2.9	65.6	3.0	10.4	18.1
Thailand	167	2.2	56.6	7.5	12.8	21.2
20% cutoff						
Hong Kong	330	7.0	66.7	1.4	5.2	198.8
Indonesia	178	5.1	71.5	8.2	2.0	13.2
Japan	1240	79.8	9.7	0.8	6.5	3.2
Korea	345	43.2	48.4	1.6	0.7	6.1
Malaysia	238	10.3	67.2	13.4	2.3	6.7
Philippines	120	19.2	44.6	2.1	7.5	26.7
Singapore	221	5.4	55.4	23.5	4.1	11.5
Taiwan	141	26.2	48.2	2.8	5.3	15.3
Thailand	167	6.6	61.6	8	8.6	15.3

Source: Claessens et al, 2000

control at the 10% level across the countries. Japan has 13.1 percent companies in family hands as compared to over half of the companies in most other countries. Across the nine Asian countries, Japan has widely held ownership by financial

institutions by 38.5%, while another 41.9% of corporations are widely held. On the contrary, Indonesia has more than two-thirds (67.1%) of its publicly listed companies in family hands, and only 0.6% are widely held. In case of Singapore almost a quarter (23.6%) of its companies are state controlled. At the 20% level the differences across countries are extended. Less than one tenth of the Japanese companies (9.7%) are controlled by families, while almost four fifths (79.8%) are widely held. This drop in family control arises as many Japanese companies have family ownership between 10% and 20%. At a 20% threshold these corporations are defined as widely held. Remarkable changes take place in Korea where family controlled drops from 67.9% to 48.4% and in Taiwan, family control decreases from 65.6 to 48.2%. In Indonesia the share of family control increases at the expense of state, widely held financial and widely held corporate control. A similar pattern is observed for Thailand, where family control increases from 50.8% to 61.6% and in Malaysia from 57.7% to 67.2%. Stable control structure is observed in case of Philippines and Singapore. Japan has shown the largest widely held firms, followed by Korea and Taiwan. Indonesia and Thailand have the smallest share of widely held firms together with Singapore (Claessens et al., 2000). Thus, these findings suggest that in most of the East Asian countries wealth is very much concentrated in the hands of a few families and have negatively affected the evolution of the legal and regulatory environment and institutional framework for corporate governance.

Analysis of Ownership Control

Ownership control is one of the central issues in corporate governance structure. However, several different measures have been used to categorize firms by control type. Furthermore, as stock ownership has become more diffused with time and size of company, the amount of stock required for effective control may decline. In addition, evidence suggests that the extent to which family members continue to exercise control in the boardroom varies widely as their ownership of the firm decreases (Mace, 1971). However, there is a general agreement that the concept of control envisions the ability to select the board of directors for the corporations, either through voting power inherent stock ownership or through position power attained by management when there is wide dispersion of stock ownership. Diverse decision rules for classifying firms have resulted from disagreements over how much ownership is required for control, from varying patterns of ownership and board representation among firms and variations in the perceived control threshold over time. The percentages of board of directors who execute and the extent to which ownerships are distributed to different groups have also been investigated as determinants of corporate control and governance mechanisms.

There are two aspects of the ownership of corporate equity in Japan, which bear on the question of corporate control. These are the practices of stable shareholding (*antei kabunushi*) and interlocking shareholding (*kabushiki mochiai*). However, these practices do not necessarily go together. Stable shareholding refers to observation that in Japan institutional shareholders have tended to hold equity for long periods and have not been active traders for most of the equity they hold. The most actively traded shares are those held by the household sector and generally

about two-thirds of the equity in Japan is held by stable shareholders. 'Stable shareholding' is a colloquial term used in Japanese capital market and it appears to imply the following behavior:

- i) It agrees (at least in most contingencies) to waive the exercise of control rights, i.e., hold shares as a passive, friendly insider, sympathetic to the incumbent management;
- ii) It agrees not to sell shares to third parties, particularly hostile takeover bidders or bidders trying to accumulate strategic parcels of shares;
- iii) It agrees to consult the firm whose shares are held in the event that it is necessary to dispose off the shares and to give the firm the opportunity to arrange for some or all of the shares to be taken by another stable shareholder.

In economic terms, stable shareholding can be interpreted as implicitly contracting away some of the property rights associated with the shareholding particularly property rights pertaining to transfer of shares or the exercise of corporate control. Comparing with an individual investor who can sell his / her shares when and to whom he/she likes, a corporate stable shareholding accepts some restrictions or his/her fewer 'residual rights'. Hirschman (1970) holds that stable shareholding imply restrictions on the exercise of 'voice' and 'exit'.

Stable shareholding arrangements can be explained from two-period perspectives: in the first period, firms enter into stable shareholding arrangements via share interlocks, and in the second period the shareholdings have an effect. This framework helps to focus on two basic points. Firstly, it helps to emphasize the intertemporal aspect of stable shareholdings; they must involve some aspect of implicit long-term contract that differs in a non-trivial way from a series of short-

term contracts. The 'extra' contracting away from property rights implied by stable shareholding can be viewed as a form of commitment device that induces contractual parties to the firm to take actions in the first period that they would not otherwise be optimal. Secondly, it helps to focus on the incentives of individual shareholders. In the second period, effective corporate control may rest with the corporate shareholders or in effect with incumbent management. In the second period, individual shareholders may appear to have 'lost' control of the firm or to have been disfranchised from corporate governance. However, the two period model makes it clear that this is a choice that investors make in the first period, as they control the firm at that point. It is fallacious to argue that investors are disadvantaged apparently by their marginal place in the firm's corporate governance.

Stable shareholding alter corporate governance of Japanese corporations in two ways. The first is that they make it difficult, if not possible, for 'hostile takeovers' to take place. However, as it is being increasingly realized, hostile takeovers through stock market – although traditionally conceived as the principal means of capital market disciplining of management are just one among many possible institutional mechanisms of corporate governance. Stable shareholding ensure that if control is to be exercised it is likely to come from or sanctioned by existing shareholders, rather than third parties. Secondly, they imply that inside corporate control coalition is committed to taking a passive role in corporate governance, thereby, delegating considerable discretionary authority to the incumbent manager. However, it should be noted that this delegation or commitment to a passive, non-interventionist role - to a voluntary suppression of voice while foregoing the right

to exit - is a stable contingent one. This works as long as the firm performs well, but in times of corporate failure intervention by the main bank may occur (Aoki, 1990; Sheard, 1989).

Stable shareholding arrangements are not necessarily linked with interlocking shareholding. The latter refers to the practice of one firm holding shares in a second firm, which simultaneously holds shares in the first. The calculation of how much share interlocking exists is tedious and difficult at an aggregate level so that most estimates have looked at small groups of the firms. Sheard (1985) estimates that Sanwa group had about 12 percent intercorporate shareholding while the Mitsubishi and Sumitomo groups had about 25 percent. Stable shareholding arrangements clearly reduce the risk of hostile takeovers as long as they can be made to last. Sheard also points out that the stable shareholding and share interlock arrangements are an important component to the main bank system. By preventing hostile takeover activity they make monitoring role of banks even more necessary while at the same time the fact that they do prevent takeovers reduces the incentive problems for banks which provide monitoring. The main bank system fulfills a monitoring and control (intervention) role that closely parallels the market oriented mechanisms associated with Anglo-American capital markets. To the extent that the main bank system operates successfully, the potential problems associated with stable shareholding arrangements, such as managerial moral hazard and free-rider problems in the provision of capital market monitoring services are minimized. On the contrary, stable shareholding arrangements may be important in giving the main bank the confidence that: i) it will be able to enforce implicit contracts with the firm when the time comes e.g., taking over the running of a firm in financial

crisis and reorganization of the management; ii) it will not suffer at the expense of the opportunistic behavior by the firm's shareholders; and iii) it will be able to obtain a commensurate share of quasi-rents that are generated by its own inputs as main bank.

In Japan, corporate grouping and the main bank system are likely to mitigate close informational and incentive problems in the financial markets. Close bank-firm relations through borrowings, shareholdings and board members' exchange undoubtedly increase information flows between group banks and firms. Even informal gatherings may be useful in reducing the informational problem providing a forum for information exchange. Shareholding and the supply of board members by group banks facilitate bank's monitoring of member firms, thereby, reducing incentive problems. As the banks hold both debt and equity of the companies, other incentive problems between shareholders and debtholders are likely to be mitigated. It can also prevent management's manipulation of earnings by curbing discretionary accruals. Thus, the corporate governance role of the main bank – monitoring and ex-post intervention has attracted much attention.

Traditional explanations for the success of the Japanese main bank system stress that financial intermediaries such as banks can serve a monitoring role, and they provide a substitute for external capital market and the market for corporate control (Stiglitz, 1985). Through its monitoring and controlling of borrowers a bank dissolves the informational asymmetries that often hinder more direct interactions between the two parties. Much of a main bank's involvement with a firm is directed towards monitoring the behavior of the borrower from the position of what Fama (1985) might call an inside creditor. When a firm is in good financial

health, a main bank will usually monitor in an ex-ante and in an interim sense. The former activity involves the bank screening, new borrowing that may wish to undertake; latter involves the firm's position on a more regular and ongoing basis, both on its own behalf and on behalf of others who may have interest in the firm. The role of main bank does not end with interim monitoring. Indeed, case study evidence suggests that one of the striking features of the main bank system is that a bank, which is main for a firm more often monitors ex-post i.e., it intervenes heavily in the management of firms in order to resolve situations in which the firm cannot meet its contractual obligations. A particularly noteworthy feature of this activity is that the main bank will incur expenses, which far exceed its nominal exposure to the distressed borrower, and it may cushion other constituents of the firm against the adverse effects of financial distress. To ensure that this role is performed properly, firms generally reward their main banks as well. This has traditionally taken the form of the bank managing a substantial share of the firm's debt on which it earns generous rate of return. However, the monitoring argument presents an additional puzzle. A large financial intermediary such as a main bank is hardly an individual person for whom, by assumption, there are no agency costs in making decisions. A bank is subject to all the same internal monitoring, information and control problems as the corporations it is supposed to be monitoring. Who, then, monitors the main bank? Berglof and Perotti provide a potential answer to this question, emphasizing the importance of reciprocal monitoring by the large banks underpinned by a reputational mechanism. While the argument undoubtedly has merit, much remains to be done to explain why such forces should be stronger in Japan than in the US. Further development of recent

study may provide a more fundamental explanation for the success of main banks, perhaps related to the specific rights they exercise and regulatory environment in which they operate (Garvey and Swan, 1996).

Academic assessments of the main bank relationship have been quite positive. Nakatani (1984) pointed out that the role of the main bank as a rescuer of financially distressed firms is an important means by which firms insure their viability across different states of nature. His argument has been extended in numerous directions. Studies by Hoshi, Scharfstein and Kashyap (1990a) and Horiuchi and Sui (1993) have subsequently confirmed that firms with main bank indeed benefit substantially from having a main bank manage temporary crises. There has also been reasonably widespread agreement that main banks perform extremely efficiently in terms of monitoring borrowings in order to prevent financial distress in the first place. When a keiretsu firm's profit is poor, the main bank representing the creditors, may try to take control. This makes management responsiveness to give poor performance. Moreover, main bank often behaves as if it were a kind of residual risk bearer among creditors and even among securityholders as a whole. As a part of residual risk bearing activities they serve to economize on the agency costs of the delegated monitoring relationship between parties. The intensity of these monitoring activities is positively correlated with shareholder concentration and main bank affiliation. These close relationships increase monitoring and reduce agency problems between managers and shareholders.

Overall, the main bank operating system seems to have been an effective mechanism for reducing risk for large, highly levered firms. The level of main

bank's monitoring also seems to be an increasing function of firm's debt level, a trade off between monitoring cost versus risk reduction. In addition to being efficient regarding monitoring cost, it appears to be capable of reducing deadweight losses in bankruptcy situations. Main bank can make a liquidation or rescue decision and take control rather smoothly without resorting to time-consuming bankruptcy proceedings. Apart from possible legal costs, the ability to reorganize with minimum disruption to customer, supplier and employee relations is quite valuable.

Unlike the American and Bangladeshi corporate law, the Japanese Commercial Code contains provisions for a meeting of bondholders. Although the meeting of bondholders is not regarded as an organ of the *kabushiki-kaisha*, it may with court's permission, adopt resolutions regarding matters, which affects seriously the interest of the bondholders. A meeting of the bondholders is convened by the *kabushiki-kaisha* or its debenture management company. All major resolutions of the bondholders' meeting, including the postponement of interest or principal payments and appointment or dismissal of representatives and executors must be approved by a two-third majority of the votes present and representing at least one-half of all votes. Any resolution of the bondholder meeting takes effect upon the approval by the court.

Actions that enhance the credibility of shareholder commitments, by decreasing the risk of the opportunistic behavior, are likely to be the value shareholders. Shareholders will have to pay for their inability to commit, and will likely do so through monetary compensation to managers for the increased risks that they face. The higher the risk of being subject to 'shareholder opportunism', the greater the up

front contractible component of income of that manager will require. Where the risks of opportunism are highest, one would expect to observe the greatest efforts to recognize on the costs of opportunism through the design of appropriate security structure to limit the scope for such behavior. It is not surprising, then, that in the Japanese firm a high level of quasi-rents associated with long-term employment contracts is accompanied by the prevalence on both the equity and debt sides. Thus, another more cogent explanation links investors monitoring to the operation of internal labor markets in Japan. Workers can expect to be employed with one firm for a much longer period than in the case of Bangladesh. While in Japan lifetime employment may be restricted to large, highly successful corporations, the employment relationship is a long-term implicit contract compared to the Anglo-American model.

There are, however, other areas of corporate governance in Bangladesh. During late 1997 the Securities and Exchange Commission made some amendments in the Securities and Exchange Rules (SE Rules). One of such amendments includes authentication of half yearly accounts, which are to be sent to the securityholders and to the regulatory agencies. The capital market watchdog has put corporate governance quite baffled by the new and stunning requirement of signing the half-yearly statement by an officer called 'chief accounting officer' apart from the Managing Director. The auditors are one of the parties who may play some roles in ensuring proper corporate governance. The auditors have thorough access, apart from the employees, to look into the affairs of the company. They report to the owners, i.e., the shareholders. The SE rules have also prescribed the format in its last amendment (Al-Muqtadir, 1999).

The private sector organizations in Bangladesh lack corporate environment where high quality of performance is expected from the employees. In order to compete in global market, high level of efficiency is needed. Clearly, there are some problems of corporate culture in Bangladesh. The major problems are identified here. It is often observed that retired bureaucrats are appointed as top management position of most of the private organizations. There should be no doubt about their administrative efficiency but problems may arise with their mental framework. Their success at public sector may not be translated well in terms of qualities needed to head a private organization. They often like to develop a centralized management system, where a single person takes all decisions. Gradually, decision making power given to different level management declines. Hence, all power and authority are centered at one point. Thus, the organization becomes a one-man show. This system hinders the development of future leadership within the organization. In this situation leader becomes isolated from rest of the organization. Organization loses valuable employees along with asset invested on them. It is essential to build up efficient management within the organization for efficient corporate culture, which will provide sound governance within the organization. Moreover, there is no well-structured human resource department (HRD) in most of the organizations. In most of the cases HRD works as administration department in Bangladesh. This system fails to play due role in the development of office bearers as expected and in attaining in corporate mission and vision (Chowdhury, 2002).

A sound financial sector with good governance system is very important to have sustainable economic growth for Bangladesh. This is a fundamental need and this

can be attained through good governance of financial institutions. In Bangladesh, banks from the largest constituent in the financial sector play a very dominant role in the national economy. Growing interest of adoption of governance in private sector banks is being noticed these days and this will result in attaining confidence and trust among depositors, investors and lenders. But we have a long way to go in this direction. The reasons behind the major failure of bank like Bank of Credit and Commerce International (BCCI) has been attributed to corruption at the highest level, fraud, incompetence and abuse of power. This failure has resulted in evolving better systems, more laws and regulations and their implementation within the framework of corporate governance. Recently major thrust has been given for establishing standard norms and corporate governance in respect of accounting standards, auditing and other areas of governance. It has been recognized that International Accounting Standard (IAS) will help to achieve quality in auditing to reflect greater accountability of corporate management and transparency of published financial information. Bangladesh Bank (Central Bank) should play active role and take initiatives for implementation of IAS in banking sector.

In case of highly levered characteristics of Japanese corporation the close relationships between banks and firms are of paramount interest. By purchasing shares and appointing directors in the firm main bank obtains information, reviews firm operations, and reduces managers' ability for taking adverse decision against the corporate goals and acts as governance device. Miyajima (1994) and Kiyonari and Nakamura (1980) have indicated that the bank's motive in establishing close ties with client firms was for the protection of outstanding debt. Although

Bangladeshi firms are highly levered, the bank-firm relationship is not so close as that in Japan. If the bank-firm relationship is promoted to be closer, it may have its likely positive impact on reducing informational asymmetries and, thus, reduce potential agency conflicts between different parties. It is argued that banks in Bangladesh are beset with many problems i.e., huge non-performing loans, poor internal control etc. It is, therefore, the need of the time to streamline the banking regulatory and supervisory frameworks particularly in the wake of financial deregulation. Moreover, development of proper regulatory rules and compliance of law now have, as such, been the prime need of the day. Along with it, to develop a healthy corporate governance culture, it is also suggested to enact the required legislation for corporate secretaries.

Different theoretical developments in the field of agency theory and corporate governance structure have been discussed. It is observed that these theories have identified much potential of the determinants of agency conflicts and their containment devices. Keeping in view these theoretical developments an attempt has been made to shed light on the agency relationships and corporate governance structure of Japan and Bangladesh. Investigation of the Japanese case ventilates that the suppression of external markets does not necessarily mean disappearance of their functions. Instead, the location of the allocation function may shift, as it appears to have done in the Japanese case, to internal capital markets within economic groups of firms. Besides, incentives for high leverage were accompanied in Japan by the development of institutions, such as the main bank relationship, that could accommodate them. On the contrary, the Bangladeshi economy is dominated by agricultural activities, which are not organized on a corporate basis.

Moreover, the average size of industrial enterprises is small. For them, market would not be very important since the high cost of small issues and several other factors discourage small firms from taking resources to the new issue market. Instead, they prefer private to public limited form. It is likely that Bangladesh cannot readily adopt the Japanese structure due to some differences in corporate practices in the two countries. However, Japanese corporate practices have some implications for development in a developing economy like Bangladesh. The point is not to suggest that the Japanese corporate practice including cross shareholding is the only way for the development of governance structure with a different legal, financial and other structural factors prevailing there. It may be emphasized that even if the experience of one country proves irrelevant for the other, the study of different corporate practices of different environments is useful as far as it highlights the strengths and weaknesses of different practices. The experience in a different socioeconomic condition may not be suitable for the conditions of others. It may also happen that sometimes the foreign structures are not found congenial, yet it becomes useful in chartering a new course for evolving an effective corporate governance structure. It is believed that the Japanese experience of corporate and industrial structure is neither wholly applicable nor an utterly irrelevant case for a present day developing country like Bangladesh. In spite of the contrasts in some economic and non-economic terms, the Japanese experience being an Asian country is more likely to be instructive in many respects than any Western nation.

Chapter 6

The Institutional Environment of Japanese and Bangladeshi Firms

Financial institutions are investment intermediaries linking the savers and users of fund. These intermediaries are interposed between the ultimate borrowers and lenders permitting them efficient transfer of funds. Individuals having surplus funds can lend them for reasonable return to entrepreneurs who need funds to take the advantage of economically and financially viable investment opportunities. The existence of capital markets and financial institutions facilitates such exchange of resources. As a result, both the borrowers and lenders are better off than they would have been without financial institutions and market intermediaries. Thus, these financial institutions have a positive role in financing and investment which is a multidimensional process involving the complexity of many interrelated and interdependent factors of diversified nature. It is difficult to assess the contribution of each factor independently. The main function of financial institution with other non-financial institutions is to assist in the allocation of nation's limited capital among numerous competing alternative uses (Ahmed, 1997). This process involves three distinct but interdependent activities: a) an increase in the volume of real savings, so that resources that would have been used for consumption purposes can be released for other purposes; b) a finance and credit mechanism, so that the resources may be claimed by investors; and c) the act of investment itself, so that resources are used for the production of capital goods (Meir and Baldwin, 1964). In fact, here lies the importance of financial institutions and intermediaries.

In orthodox theory, capital market plays a dual role, supplying various forms of investment finance and disciplining firms, which are inefficient and fail to pursue profit goals. Firms can make production-investment decisions and investors can choose among the securities that represent ownership of firms' activities under the assumption that security prices at any time fully reflect the available information. Thus, an efficient market for corporate control is a dominant aspect of the finance-industry relationship today in the stock market dominant economies of the USA, the UK and Bangladesh. However, the relationship between finance and industry are rather differently organized in Japan and Germany. In these countries, dominant role of banks tend to have a long-term relationship with enterprises with a different status for the shareholders and the stock market in general. The bank-based systems are, by contrast, far better able to ensure long-term financial commitment to their client corporations. In addition, unlikely the small individual investor in a stock-market based system who has no incentive to gather the costly information needed to supervise and discipline managers in management controlled large corporations, the banks have both the incentive and capacity to subject corporate managers to much more stringent supervision. The Japanese-German types of banks demonstrate better dealing with the problems of agency, asymmetric information and transaction costs than the Anglo-American stock-market based system. To the extent Bangladesh has a choice, attempts to be aimed at fostering bank-based system as theoretical and empirical reasoning suggests. Despite its significant merits, it is also not desirable to ignore limitations of the country's crisis ridden banking system, which necessitates proper regulation of the

banking operation in order to ensure efficient use and monitoring of corporate funds.

Japan and Bangladesh are assumed to have different institutional environments implying different agency and corporate governance structures. As such, the relationship of institution and firms, legal and regulatory framework for operation in these two countries should also be different. The important aspect focused is on the extent to which institutions are allowed simultaneously to be major debt holders and shareholders of the same firm and to investigate the major role of the institutional environment in Japan and Bangladesh from the viewpoint of their contribution in mitigating agency conflicts, monitoring, corporate governance and reducing bankruptcy.

Legal and Regulatory Environment in General

The legal and regulatory environment of Japanese financial institutions permit them to be what Jensen (1989) has termed "active investors" to a much greater extent in corporations. Institutional investors in Japan generally give much more latitude to own shares and exert control over firms than they are in Bangladesh.

Within Japan there exist differences between firms that are affiliated with keiretsu groups and unaffiliated, independent firms concerning institutional arrangements with suppliers, customers and financiers. Japanese industrial organization is characterized by groups of enterprises composed of firms based in different industries, but bound by ties of fractional ownership, and reliant on a large commercial bank as the major lender. The large shareholders of *keiretsu* firms are often large creditors of the firm as well as important long-term

commercial business partners. *Keiretsu* firms differ from independent firms that have more arms-length type relationship with other firms and financiers. These differences in institutional arrangements may influence firm's ownership structure and behavior of the shareholders as monitors (Roe, 1990).

The role played by shareholders in Japan is subject to some controversies. The belief that shareholders have little power to exercise control over management is widespread (Abegglen and Stalk, 1985). Prowse (1990) argues that because large shareholders are also large debtholders in the same *keiretsu* firms, they may preclude policies that attempt to transfer wealth from debtholders to shareholders.

The differences in debt and shareholding among institutions, corporations and individuals between Japan and Bangladesh present a number of puzzles. A number of exogenous factors are likely to be important in explaining this issue. Article 65 of the Japanese Securities and Exchange Law (which was based on the Glass-Steagall Act) prohibits banks from engaging in the security business. The major difference between Glass-Steagall Act and Article 65 is that the latter provides an exception for cases in which there is an investment motive. Thus, there is no control on the acquisition of securities for investment purposes. Japanese commercial banks are not constrained from owning corporate stock. However, Japanese bank shareholdings are subject to anti-monopoly regulations. From 1987, the maximum percentage of a single company's share that could be held by a Japanese bank is 5 percent; life insurance companies are still to the 10 percent limit. Thus, through their shareholdings, Japanese banks have considerable ongoing influence over the financial and investment policies of the firm. However, in 1991 different changes have been taken place in the regulatory framework of

Japan. On June 25, 1991 the Financial System Research Council decided a pragmatic reform plan to enhance competition in every field of financial services by permitting financial institutions to make new entry to other businesses so far as the entry was made in the form of their subsidiaries. It will eventually reduce the degree of specialization of financial institutions established since Meiji restoration. It proposes to make amendments to article 2 of the Securities and Exchange Law to cover a broad set of securities. Then the legal framework for investor protection such as the disclosure system, prohibiting unfair trade and so on can be extended to the large range of securities. This amendment of Securities Exchange Law is compatible with the globalization of the Japanese capital market and hence of the financial system as a whole. For instance, it will be easier for foreign entities to raise funds in Japan by bringing foreign securitized products into the Japanese market. The universal banking system where a bank can operate securities business within the same entity shall not be adopted. However, bank could make entry into securities business through their subsidiaries. The report of June 1991 by the Securities and Exchange Council proposed new entries into securities business in order to encourage effective and fair competition among intermediaries of the Japanese capital market. Entries into securities industry from non-financial as well as financial industries including banks will be eased. Needless to say, the report pays careful attention to the existing securities houses in such ways as follows: 1) Firewalls would be set up between the parent and its subsidiary to avoid conflicts of interests and other adverse effects. 2) Firewalls in case of bank subsidiaries should be installed while paying due respect to factors such as banks could exert specific influences towards companies and investors. 3) At the moment new entries

will be admitted principally into primary markets. In addition subsidiaries of banks should not be allowed to engage in stock brokerage business for the time being.

Indeed banks can enter securities businesses through subsidiaries within a set of constraints at least for a while. However, banks themselves are able to continue transaction business in the open money market using securities such as CPs and CDs (Commercial papers and Certificate of Deposits), and business relating to private placement of securities, in addition to securities businesses of central and local government bonds (Japan Securities Research Institute, 1992).

On the contrary, Bangladeshi commercial banks are unwilling to hold non-government securities. An examination of the statements of the individual banks reveals very small holdings of shares. In general, such holdings amount to less than 1 percent of the total deposits (Robbins, 1980). This attitude of banks represents a combination of factors including a reluctance to hold long-term investments in the face of short-term obligations, the modest amount of good securities available, lack of their liquidity and lack of confidence in the stock market of Bangladesh. Even if these are true, the virtual abstinence appears to be extreme. There is reason to believe that banks are not performing their due role in this regard. In this respect Ahmed et al. (1993) hold that, 'Although institutional investors constitute a very large segment of the potential demand for stock market securities, they are reluctant to invest in these securities due to unavailability of securities in terms of both quantity and quality, and organizational and legal restrictions on security investment, although it was revealed that the officials of institutional investors have reasonable ability to analyze information for making sound investment'.

Japanese life-insurance companies are generally not subject to regulation about the amount of an individual firm's stock, they can own over and above that are provided by anti-monopoly regulation, nor are they subject to restrictions as are Bangladeshi insurance companies. They have the scope to own individual firm debt and equity simultaneously and, thus, may have the capability to alleviate potential conflict between shareholders and debtholders. On the other hand, in Bangladesh there are at least 20 insurance companies. According to Section 2 (3) of the Insurance Act 1938, "approved securities" for investment means that Government securities and any other security charged on the revenue of the Government to be guaranteed fully in regards to the principal and interest by Government. This act does not include listed securities and, thereby, prohibits this fund to enter into stock market. Besides this, a sizable investment fund is available in different Provident Funds, Pension Funds and Trust Funds. Section 20 of the Trust Act 1882 provides that these funds can be invested in securities "fully and unconditionally guaranteed by Government". Besides, according to Section 54 (b) of the Cooperative Societies Ordinance 1984, Cooperative Societies can only invest in the similar type of securities as specified in the Trust Act. As a result, these funds cannot participate in the stock market. Besides, multinational companies constitute some of the largest and probably best operated companies in Bangladesh. These are either owned by government or foreign investors resulting in unavailability of these shares although they are listed with the Dhaka Stock Exchange. Foreign companies need to be pursued for issuance of some local equity. The trivial role of the institutional investors in the stock market can be explained to some extent by these factors.

However, in view of the high oversubscription rate, 15 percent of Initial Public Offering is reserved for financial institutions, insurance companies and other financial intermediaries as guidelines issued by the Securities and Exchange Commission in 1995. Now institutional investors in Bangladesh require to be persuaded of the desirability of equity investments, and measures need to be taken to relinquish them from the requirement to invest in government securities only.

Apart from the various institutional framework, there is also the indisputable need to institute and implement appropriate regulations and standards covering the rules for conduct of stockholders, accounting and auditing standards and so on. Brokers' activities are not satisfactory in many countries including Bangladesh. The core of the problems revolves around the conflict of interest that arises mainly from the role of a broker as an agent, and the personal economic freedom for the broker to trade on his own account, underwriting new issues, acting as company director etc. This creates distrust among the investing public about stock markets. It is difficult to make a clear-cut boundary of their activities and therefore, it is essential that their activities and responsibilities are to be determined through exchange of expert opinion. Moreover, it is likely that the asymmetric information among investors is caused by poor communications and uneven disclosure by companies. This may result in a lack of confidence in the market by investors. Insider trading, even when it is nothing more than a quick reaction to slowly spreading information, which is possible in the absence of an efficient information network, may induce others to shun the market. Drake (1980) has pointed out the need for official regulation and supervision to ensure full disclosure and wide

dissemination of information in order to prevent market rigging and to protect shareholders' interest.

The securities market in Bangladesh as elsewhere is governed by certain rules and regulations. Regulatory authorities of the Bangladesh capital market include Securities and Exchange Commission (SEC) Registrar of Joint Stock Companies (RJSC) and Dhaka Stock Exchange (DSE). SEC is under the Ministry of Finance and RJSC is under the Ministry of Commerce. On the other hand, DSE is a corporate body under the Companies Act. The DSE, which is self regulating has listing rules; in many cases corporate listing with DSE is influenced by the requirement of the regulatory authorities or the financial institutions, which impose listing requirement as a condition of getting credit attaching lesser importance to the other benefits of stock listing. However, there are some weaknesses in its regulatory framework regarding methods of trading, protection of shareholders, and conduct of members. DSE has listing rules, but they are generally outdated, and lack of objectivity and detailed provisions for administration of listed stocks. DSE does not ensure disclosure of information on listed companies in order to protect investors' interest. It does not enforce disciplinary regulations so that violation of rules and regulations is minimized. Although Investment Corporation of Bangladesh (ICB) was established with the prime objective of developing a well functioning capital market, but ultimately, it has frustrated the optimists. However, the Securities and Exchange Commission of Bangladesh which is responsible for overseeing the market needs to give attention to these issues so that proper transparency is ensured and code of conduct of the participants is well defined and adhered to in order to mitigate agency conflicts among different parties.

Ownership Structure

Some of the major differences in the firm's institutional environment between Japan and Bangladesh – namely, the far heavier weight of financial institutions in the ownership of corporate shareholders are shown in Tables – 6.1 and 6.2. In Japan, the share of individual stockholding has been more than 69.1 percent in 1949 which came down to 33.5 percent in 1975 and to only 23.2 percent in 1991. On the contrary, the share of business corporations have risen from 5.6 percent in 1949 to 26.3 percent in 1975 and no significant change is noticed thereafter. However, the share of business corporations was a little higher during 1970 to 1980 which is believed to have been due to the liberalization of capital market in the early 1970s. The share of financial institutions has also been rising from 9.9 percent in 1949 to 41.5 percent in 1991. Of course, this does not imply that the individuals' investment ratio has decreased, rather it shows that their investment preference has shifted from risky-assets to risk-free assets. According to Yonezawa and Maru Junko (1984), among the risk-free assets the time deposits, which yield relatively higher earnings, have increased sharply from 26.6 percent of total household investment in financial assets during 1960-1964 to 46.5 percent during 1975-1979. One of the reasons often cited for individuals' preference for bank deposits and other related forms of assets is the preferential tax treatment of interest income.

The two great waves of stock interchanges occurred in the early 1950s and early 1970s. In the first period, the "*keiretsu*" emerged from the remains of the pre-war "*zaibatsu*". The second was followed in the 1971 liberalization of capital flows into Japan when management feared acquisition by foreign firms. Thus, in 1985 the

major institutional stockholders (banks, insurance and non-financial business corporations) collectively held 61.7 percent of listed shares but engaged in only 16.5 percent of trades. By contrast, member security firms, individuals and foreigners possess 74.1 percent of trading, despite holding less than 34.3 percent of listed stocks (Aoki, 1984a). From these figures it appears that the major stockholders in Japanese market hold stocks to maintain or enhance business relationships and do very little trading.

Table - 6.1
Stock Ownership by Corporations and Individuals
(All listed Companies, percent)

Year	Financial Institutions (Except Investment Trusts)	Business Corporations	Individuals
1949	9.9	5.6	69.1
1950	12.6	11.0	61.3
1955	19.5	13.2	53.1
1960	23.1	17.8	46.3
1965	23.4	18.4	44.8
1970	30.9	23.1	39.9
1975	34.5	26.3	33.5
1980	37.3	26.0	29.2
1985	40.9	24.8	25.2
1991	41.5	24.5	23.2

Source: Association of National Stock Exchanges, *Kabushiki Bumpai Jogyo Chosa* (Survey of Stock Ownership distribution).

Table-6.2 summarizes the principal findings of a survey of ownership of shares in listed companies for the year 1984 and 1985 carried out by Dhaka Stock Exchange of 35 companies out of 58 listed companies as on 30th June 1985. It appears from Table-6.2 that the largest number of shareholders was in the group of general public, accounting for 98.52 percent of the total shareholders for the year 1985 in comparison to 95.27 percent in the year 1984. In terms of value of shareholding, general public held Tk.305.54 million or 24.56 percent of the total paid up capital for the year 1985 whereas it was Tk.107.38 million or 10.94 percent for the year 1984. This share accounts for 16.82 percent for 1983. The share of Investment Corporation of Bangladesh (ICB) which provides equity support through underwriting of share issue remains almost static around 10 percent. The paid up capital of the total shareholding is still dominated by directors / sponsors. In 1983, directors/sponsors held 54.69 percent of the total share holding of listed companies while it reduced to 43.51 percent and 36.91 percent in 1984 and 1985 respectively. Thus, it shows a declining trend in terms of value. In terms of number of shareholders in this category, it was 292 or 2.74 percent in the year 1984. In 1985, it increased to 364 or 0.90 percent of the total. This means that concentration of ownership is increasing.

On the other hand, in Bangladesh various individuals and family groups inclined to concentrate ownership and control within themselves. There were 16057 private limited companies representing primarily family-owned enterprises on 30th June 1988. Most of them wanted to confine their holdings amongst their family members and relatives. It is also reported that even when the company is listed on the stock exchange, few shares are available for trading as majority remain held by

the original sponsors. The original sponsors often buy additional shares from the market to raise their holdings to as high as 70 percent or 80 percent though shares are floated in the primary market on 50:50 basis (Alam, 1989).

Table – 6.2
Ownership Structure of Listed Stocks

Categories of Owner	1983				1984				1985			
	Total Shareholders		Total Value		Total Shareholders		Total Value		Total Shareholders		Total Value	
	No.	%	Mill. Tk.	%	No.	%	Mill. Tk.	%	No.	%	Mill. Tk.	%
Directors/ Sponsors	NA	NA	NA	54.69	292	2.47	427.2	43.51	364	0.90	459.3	36.91
Government	NA	NA	NA	13.40	24	0.23	269.3	27.44	23	0.06	280.6	22.55
ICB	NA	NA	NA	10.67	37	0.35	110.5	11.26	49	0.12	127.9	10.23
Banks and Financial Institutions	NA	NA	NA	3.40	77	0.72	49.3	5.02	81	0.20	52.5	4.23
General Public	NA	NA	NA	16.82	10147	95.27	107.4	10.94	39854	98.52	305.6	24.56
Others	NA	NA	NA	1.02	74	0.69	18.0	1.83	80	0.20	18.3	1.47
Total	NA	NA	NA	100	10651	100	981.7	100	40451	100	1244.2	100

Notes: NA denotes not available

Pattern of share ownership figures obtained from the data supplied by 23 listed companies for the year 1983 and 35 listed companies for the year 1984 and 1985.

Source: For the figures of 1983, Fact Book of 1984 and for the figures of 1984 and 1985, Fact Book, 1985-1986, Dhaka Stock Exchange.

In view of the previous discussion, it can be claimed that the creation of business groups has resulted in chronic shortage of Japanese enterprises stocks. In the absence of mutually held shares by members of the enterprises of the groups shares can be exchanged among general investors. Consequently, a wider distribution of share ownership would come about. Whereas, in Bangladesh, the Company Law Reform Commission has debated to help spread widely-held share ownership. As the sponsors of Bangladeshi corporation need to put up a small percentage of the total project cost i.e., about 20–30 percent or less, it is felt that this fact favors the

justification of spreading stock ownership among the general investors. While the formation of business groups through cross stockholding favors concentration of stocks among group firms, it may adversely affect the stock market development because of the resulting discouragement to investment for the potential investors. The public good nature of managerial monitoring effort leads to its sub-optimal provision, a problem which is likely to be more severe when the number of shareholders increases and their average stake in the firm falls (Stiglitz, 1985). As ownership concentration is likely to be inversely proportional to the number of shareholders, diffusely-held corporations are poorly monitored, and to the extent that managers maximize objectives other than profit maximization, their profits would, *ceteris paribus*, tend to be lower than profits of similar corporations with a more concentrated ownership structure (Yafeh, 1995). A comparison of the share ownership structure in the Dhaka Stock Exchange in Bangladesh for the year 1985 and Tokyo Stock Exchange in Japan for the year 1995 reveals that share ownership is very low in Japan. This share is lower in Bangladesh. However, if share of sponsors/directors is included in this category, this share becomes quite high, more than 68 percent. Among the different types of share ownership, the share of sponsors/directors is the highest suggesting a high concentration of share ownership in few hands. On the contrary, in Japan, the share ownership by business corporations is around 30 percent but this culture has not developed in Bangladesh indicating nonexistence of mutual shareholding. Moreover, the ownership of banks and financial institutions in Japan is very high while this share is very low in Bangladesh.

For Bangladesh, households are the largest shareholder's group although stock as a percentage of overall household wealth has always been small in the portfolio composition of stock investors, not to speak of the general public. The distributions of stockholding in Bangladesh are skewed in the direction of the wealthy investors. Recognizing the highly skewed ownership structure of Bangladeshi companies as a fundamental issue, of late, the authorities have adopted several policies intended to broaden the base of share ownership as follows:

- i) The government has withdrawn all restrictions on foreign investment, permitting them to invest directly in primary and secondary market
- ii) The restriction on sale of shares at a premium has been withdrawn
- iii) No permission is now needed to issue Right or Bonus shares within some limit.
- iv) 55 percent of IPOs have been reserved for the minimum lot of Tk.5000

However, the change in the ownership structure cannot necessarily be explained from the side of individual investors behaviors' only. Corporate behavior has also its bearing on it. For understanding Japanese corporate capitalism, it is imperative to analyze the corporate practice like enterprise relationship and cross shareholding that fostered business groups. Not only in Japan, the phenomenon of business groups can also be seen in many other countries where the market mechanism is the fundamental instrument of resource allocation. In these economies, the group is considered as an integral part of the resource allocation mechanism where internal organization can conceivably work as one of the institutional devices.

When control rights are concentrated in the hands of a small number of investors with a collectively large cash flow stake, intensive action is easier by investors

than when control rights, such as votes, are split among many of them. There are different ways by which concentration can take place, that is, including large shareholders, takeovers and large creditors.

The most direct way to align cash flow and control rights of outside investors is to concentrate shareholdings. It can imply that one or several investors in the firm have substantial minority ownership stakes, e.g., 10 percent or 20 percent. A substantial minority shareholder has the incentive to collect information and monitor management and helps in avoiding traditional free rider problem. In many cases he also has substantial voting control to put pressure on the management or even to oust the management through a proxy fight or takeover (Shleifer and Vishny, 1986). In more extreme cases, large shareholders have outright control of the firms and their management with 51 or more percent ownership. Thus, large shareholders address agency problem in such a way that they (shareholders and their management) have a general interest in profit maximization and enough control over the assets of the firm to have their interests protected. Like the large shareholders, significant creditors such as banks, are also potentially active investors having large investments in the firm and want to see the return on their investment materialize. Their power comes in part from the control rights they receive when firms default or violate the debt covenants (Smith and Warner, 1979) and because they lend short term, so the borrowers have to come back regularly for additional funds. Thus, with a whole range of controls, large creditors combine substantial cash flow rights with the ability to interfere in the major decisions of the firm. Moreover, in many countries like Japan, banks end up holding equity as well as debt of the firms they invest in, or alternatively vote for the equity of other

investors. Thus, in many ways financial institutions and banks and other large creditors are similar to the large shareholders.

As institutions' ownership has increased, their role as shareholders has also evolved. Some institutional investors began to abandon their traditional passive shareholder role and became more active participants in the governance of their corporate holdings. Moreover, the rise in institutional holdings and corresponding decline of the market for corporate control have focused attention on the role and importance of institutional investors as monitors of corporate management. The recent increase in monitoring by traditionally passive institutional investors has been described as "shareholder activism". The role of institutional shareholder activism arises due to the conflict of interest between managers and shareholders. To control such conflicts, special market and organizational mechanisms have evolved. For example, there is an inherent monitoring function in the stock market itself that pressures managers to orient their decisions towards stockholders interest. Fama and Jensen (1983) hold that the market for takeovers provides competing management team ability to outwit existing poor management. However, Jensen (1993) argues that with the slump in mergers, acquisitions and other corporate control activity over the early 1990s, the capital markets have not been as effective and there has been a shift to reliance on often ineffective internal control mechanisms. Thus, large shareholders, i.e., individuals or institutions that simultaneously holding large debt and equity positions in a company have been motivated to actively participate in the company's strategic decisions. Moreover, it is argued that due to free rider problem only the large shareholders have the incentive to undertake monitoring or other controlling devices. All shareholders

benefit from those activities although they do not bear the cost of the process. The institutional investors with a larger stake in the firm has stronger incentives undertaking monitoring activities, as it is more likely that the large investor's increased return from monitoring is sufficient to cover the associated monitoring cost.

Although there has been a great deal of theoretical discussion of the governance by institutional large shareholders and creditors, the empirical evidence of their roles remains scarce. In the United States, large shareholdings, and especially majority ownership are relatively uncommon – probably because of the legal restrictions on high ownership and exercise of controls by banks, mutual funds, insurance companies and other institutions (Roe, 1994). However, even in the United States ownership is not completely dispersed, and concentrated holdings by families and wealthy investors are common than it is often believed (Demsetz, 1983). Holderness and Sheehan (1988) observed several cases of over 51 percent shareholders in public firms in the United States. In rest of the world, large shareholdings in some forms are the norm. In Germany large commercial banks through their proxy voting arrangements often control over a quarter of the votes in the major companies and also have significant cash flow stakes as direct shareholders or creditors (Franks and Myers, 1994). Although in Japan, ownership is not nearly as concentrated as in Germany, large crossholding as well as shareholding by major banks are the norm (Prowse, 1992). For Japan, Kaplan and Minton (1994) show that firms with large shareholders are more likely to replace managers in response to poor performance than firms without them. Yafeh and Yosha (1996) observed that large shareholders reduce discretionary spending, such

as advertising, Research and Development (R & D) and entertainment expenses by Japanese managers. In most of the rest of the world, including most of Europe (e.g., Italy, Finland, and Sweden) as well as Latin America, East Asia and Africa corporations typically have controlling owners, who are often founders or their offspring. The effectiveness of large creditors, like the effectiveness of large shareholders, depends on the legal rights they have. In Japan, the powers of the banks vis a vis companies are very significant because banks vote significant blocks of shares, sit on board of directors and play a significant role in lending and operate in a legal environment favorable for creditors. In other countries where procedures for turning control over to the banks are not well established, bank governance is likely to be less effective (Barca, 1995). In short, heavily concentrated crossholding of shares and control through credit participation by institutions seem to be the rule of Japan.

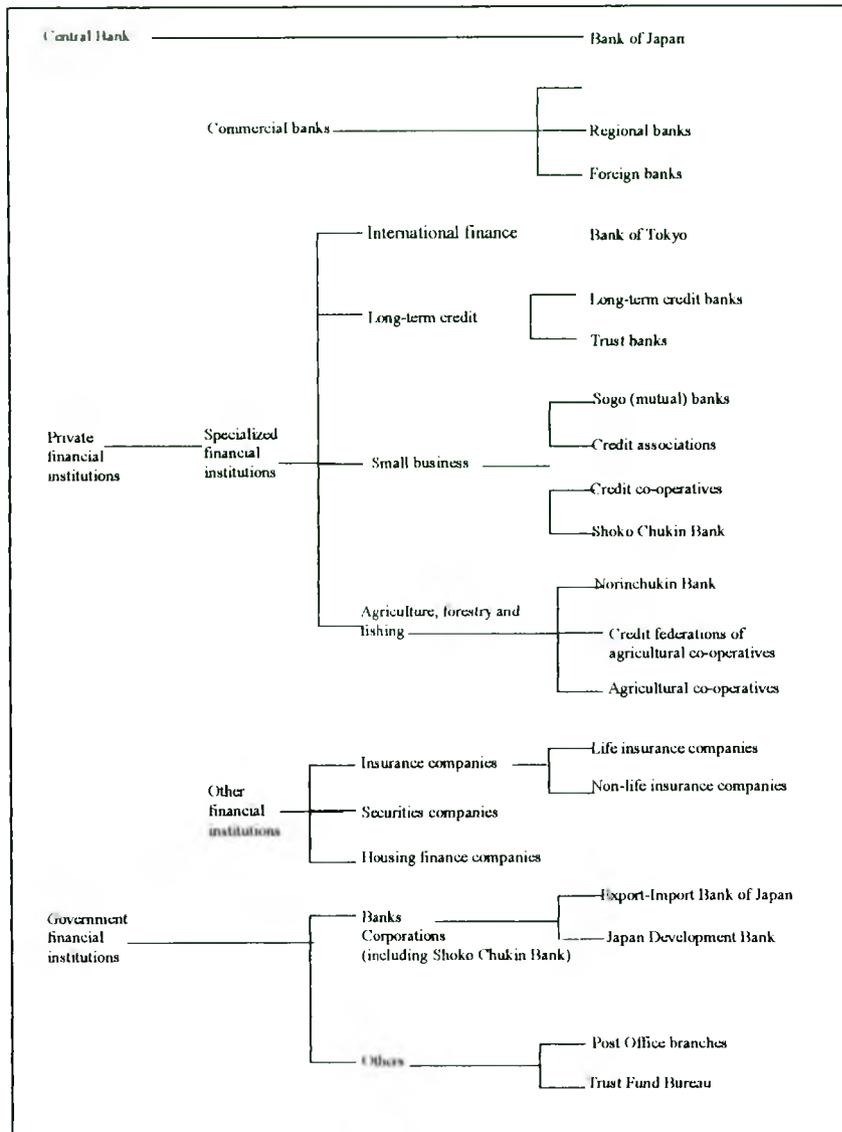
These differences in shareholdings suggest that there are significant differences in the abilities of Japanese and Bangladeshi financial institutions as major debtholders of firms, to mitigate potential debtholder-shareholder agency costs. There is evidence that commercial banks in Japan, who are the principal lenders of industries, take important roles as shareholders in the firms to which they lend. The power of Japanese banks to influence the policy of corporations through the holding of their shares is widely held to be significant. It is common for Japanese banks to have board representation and to send officers directly into the top management of the firm. Many researchers have written about the banks' ability to exercise a tacit veto over the investment decisions of the firm (Aoki, 1984b; Hodder, 1988).

Banking System of Japan

Japanese banking system has evolved in such a way that different types of banks specialize in different types of financing, which consists of a) the regulatory authorities, b) public finance, and c) private finance (Chart-6.1). At the top of the system Bank of Japan and the Ministry of Finance form the key regulatory authorities. Government financial institutions conform to the normal pattern of market economies, although there has been a bias towards public development institutions. These include the Japan Development Bank, the Exim Bank, the Trust Fund Bureau, the Post Office Savings Scheme and the public Finance Corporations. As regards private finance, there are very strict demarcations between banking and securities business. Banks were split into City Banks (which include foreign banks), Long-term Credit Banks, Trust Banks, Regional Banks, Mutual Banks, Credit Associations, and the Bank of Tokyo – the only specialized Foreign Exchange Bank. Insurance companies were divided into life and non-life business.

However, the bulk of the long-term lending is provided by the long-term credit banks or by the trust banks. But much nominally short-term lending by the city and regional banks is repeatedly rolled over, with the interest rate being frequently renegotiated, so that the distinction between short-term and long-term lending is blurred. The bank and industry have, therefore, become highly inter-dependent. Industries rely heavily on banks as a stable source of finance, and the banks in turn depend on industry as a stable source of loan demand.

Chart – 6.1: Structure of the financial sector in Japan



Source: Prindle (1981)

The development of bank's role has been facilitated by the close relationship of Japanese banks with firms, which has its roots in pre-war period. The pre-war *Zaibatsu* were in the nature of holding companies controlled by wealthy families in which banks tended to have, if not a subordinate position, at least not a dominant one. After the post-war dissolution of the *Zaibatsu*, a looser group structure

emerged, based on part on the old *Zaibatsu*, but to a large extent under the leadership of the major banks.

The well known present-day groups that have emerged from the old *Zaibatsu* are Mitsubishi, Mitsui and Sumitomo, while examples of groups not connected with old *Zaibatsu* are Dai-Ichi Kangyo and Sanwa. Other groups do not rely on the leadership of a bank: some major industrial concern, such as, Toyota, Hitachi and Matsushita have formed independent groups based on more homogeneous range of products. In general, however, groups tend to be made up of a heterogeneous collection of companies, which have substantial cross-holdings of shares (Ahmed and Chowdhury, 1987).

From a bank's point of view there are several advantages of the present-day group structure. These stem from the opportunities for diversifying lending risk, from the reduction of risk inherent in the mutual support of group companies, and from the complementary nature of group financing needs. Some companies in the group will be operating primarily in domestic markets and others in the export markets and some will be producing capital goods. Consequently, group financing needs can be to a considerable extent complementary. Seasonal fluctuations in demand for funds can be smoothed, and cyclical variations in the strength of economic demand can be more easily handled. In a close-knit structure, typically only about 20%-30% of a group bank's lending goes to group companies, although there are wide divergences, and group companies tend to borrow only about 20% of their total financing needs from their banks (Elston, 1981).

It is a feature of corporate organization in Japan that most large firms have close financial, shareholding and managerial ties with a particular bank known as the

'main bank'. Most listed firms in Japan have as their main bank one of the city, long-term credit or trust banks. The main bank provides the largest single share of the borrowed money of the firm concerned. It is also a major shareholder of the firm. The bank possesses detailed knowledge of the firm's affairs. It is provided with a stable demand for its fund by the firm, and implicitly guarantees that fund will be available to the firm. As is well known, the main banks are central entities in their respective corporate groupings or *kinyu keiretsu*. The forms of assistance by the main bank can be outlined as below:

- a) The most common role of main bank in Japan is to grant loans with most favorable terms. For instance the main bank reduces loan rate from quasi-prime to prime or from long-term to short-term prime rate.
- b) The other side of main bank's role is to play the role of leading guarantor to other lenders. The main bank provides a monitoring function for those other lenders. It has much better information and other lenders rely on its evaluation of the borrowers. They also typically expect the main bank to absorb a disproportionate share of loan losses in the event of a client bankruptcy (Wallich and Wallich, 1976).
- c) The main bank provides an expansion of finance or rolls over existing loan obligations to allow the firm to survive a short-term cash flow crisis.
- d) The main bank also directly absorbs losses by writing off non-performing loans as irredeemable.
- e) The main bank is often instrumental in arranging a special issue of capital to revive an ailing firm. The involvement of Daiichi Kangyo Bank and Industrial Bank of Japan in Nippon Light Metal's capital issue in 1983 and Industrial Bank of

Japan in Japan Line's issue in 1984 are two notable examples. When the main bank provides assistance to a struggling firm it normally requires that the firm submit a recovery plan giving details of the realization and cost-cutting measures to be taken. Thus, assistance is tied to the implementation of specified internal adjustment measures (Chowdhury, 1994).

There appears to be a significant number of theoretical research on the economic impact of main bank relationship in Japan but relatively few empirical works. The theory is based on the idea that the main bank either provides some kind of insurance for clients or is able to monitor its clients closely than that of other creditors or investors. If the latter is true then the agency or asymmetric informational problems related with the external financing of firms should be reduced. Thus, the existence of main bank relationship makes financing easier in some sense for firms that have it than for firms without it. However, there exists some debate about the economic impact of the existence of main bank. It may be considered that the main bank relationship would be: i) reducing the cost of external finance ii) increasing the availability of long-term finance iii) increasing the proportion of outside finance and iv) lowering the variance of bank finance over time during different macro economic conditions.

Recent empirical works help to bridge this gap although it tests a rather limited range of possible impacts of main bank relationships. Hoshi, Kashyap and Scharfstein (1990b) and Horiuchi et al. (1991) concentrate whether the main bank relationship eases the internal finance constraints, that is, whether the amount of investment is less constrained by the availability of internal finance when the firm has a stronger main bank relationship compared to weaker

relationship. The perception is that strong main bank relationship makes borrowing easier. In another study Hoshi et al. (1991) consider the effect of the relationship on the cost of financial distress and hold that i) firms with main banks are less sensitive to their internal liquidity in making investment ii) firms reducing their relationships with main banks face more liquidity problems and iii) firms with main bank relationships perform better in financial distress, that is, they sell and invest more compared to non-bank related firms in distress.

These results are consistent with the opinion that the main bank relationship is able to provide easier access to outside finance and in reducing cost of bankruptcy that may arise with higher debt levels. It is suggested that the former is the result of monitoring and latter comes from the bank' role in coordinating other creditors. Thus, the main bank relationship consists of three major parts: i) a significant share in lending ii) an equity stake and iii) some managerial input, that is, seats on the board. The ability to have managerial input is tied with share ownership rather than lending activity alone. There have been little changes in the average strength of the main bank relationships for those groups of firms for whom information is available over the 1970s and 1980s. The presence of the main bank's relationship with firms eases internal funding constraint and reduces the severity of financial distress.

However, the main bank is now at the crossroad. The viability of the system may be seriously threatened by certain aspects of financial deregulation. Hodder (1988) argues that financial deregulation will continue to increase the aggregate ratio of equity to asset for Japanese firms. There is also more reliance on bond issues by the relatively independent firms. Both will weaken the main bank's

control on client firms. Nevertheless, the relatively rare ability of the main bank system to reduce credit risk suggests that highly levered capital structure may remain a characteristic of some Japanese firms.

Banking System of Bangladesh

Comprising three layers, the banking system of Bangladesh has been designed in such a way that different types of banks specialize in different types of lending. The layers comprise regulatory authorities, public finance and private finance. Bangladesh Bank being the central bank and Ministry of Finance as the key regulatory authority decides overall framework and issues' directives, which govern the operation of commercial banks and the overall financial performance in Bangladesh. Government financial institutions are most likely owned and controlled by the government. As regards to private finance, the financial institutions so far developed are in the category of commercial banks owned by Bangladeshi nationals, some life and non-life insurance companies, leasing companies and foreign commercial banks owned by foreigners. In the private sector, there are three Islamic Banks based on the principles of profit sharing instead of traditional charging of interest on deposits.

In Bangladesh, banking system underwent structural changes with the creation of six nationalized commercial banks through nationalization in 1972. Before nationalization there were twelve commercial banks in the private sector and two Development Finance Institutions (DFIs) – one for industrial finance and the other for agricultural finance in the private sector. With the change of Government policy towards privatization, two commercial banks were denationalized in 1984

and 1986. However, with the government liberalization policy, applications seeking permission for setting up more private banks, insurance companies and leasing companies are under consideration of the authorities concerned. An obvious indication of size of financial structure is the number of bank branches. The number of branches of all commercial banks increased from 4,719 to 7,113 in 1993. This reflects the government policy emphasizing the private sector. The branches of Foreign Commercial Banks are not too many and they are more or less stable. In case of specialized banks increasing number of branches is mainly attributable to the agricultural banks, which are in the public sector. The figure of industrial banks i.e., Investment Corporation of Bangladesh and Bangladesh Shilpa Rin Sangstha have only a few branches.

The perspective of a DFI differs from that of an ordinary financial institution. Development institution seeks to promote industrial development as is consistent with the overall national development strategy. The objectives may not be clear, and some of them may not be quantified and measured. It is needless to say that the relative significance of the various objectives changes with time and situations. Besides, the objectives may be dependent of the extent of information with regard to the alternative courses of action (Arrow, 1974). It may be mentioned that capital market theory has considerable relevance to DFIs. The recognition that some sectors carry more risk than others should enable them to use a higher discount rate in higher business. Also DFIs need a well-diversified portfolio of loans and equity stakes so that they can diversify specific risk. The principle of diversification is an argument against establishing institutions, which were too specialized. Such institutions have limited scope for risk diversification. DFIs by their objectives are

obliged to finance projects associated with high financial and commercial risks. Thus, these institutions require high expected return according to capital market theory. However, the requirement of government to meet national objectives implies that it may be required to finance projects whose financial return is expected to be lower than if considered on commercial grounds. It seems difficult to reconcile the financial and national objectives. Kitchen (1993) holds that the present third world countries are mostly characterized with DFIs. The important reasons for such institutions are: i) the private sector does not provide adequate institutions or finance to provide long-term capital to corporations for investment purposes and ii) the central roles in economic development which government take on forces them to set up such institutions to identify, appraise, promote, finance and implement investment projects.

A DFI can play twin role in the realm of economic development process i.e., financing and promotion. It is true that while the lack of finance might hinder investment, cheap or potential credit cannot per se be an instrument for successful investment. Financing to corporations would depend on the viability of the project, which is determined through scrutiny of its economic, financial and technical, and management aspect. All these constitute the main features of promotional roles of DFIs. The creation of such an institution is aimed at solving this twofold problem at one stroke. In Bangladesh, DFIs appear to be necessary because financial institutions are limited in number and entrepreneurial activities are largely concentrated on activities that may yield quick returns, such as trading. Moreover, shortage of funds in the capital markets and facilities to promote industries and investors indicate the great need of such institution. However, institutional finance

generally begins with banks although it may differ in form and practice in different countries.

In many developing countries commercial banks are dominant among other financial institutions. Commercial banks account for 65 percent of financial savings in developing countries compared to 55 percent in industrial countries (Kitchen, 1993). Of course, these banks, are financial intermediaries, and therefore, they play a large role in the provision of credit and investment funds. Historically, British type of banking in the developing countries is eminent. It is hardly surprising because of the fact that most of the present day developing countries including Bangladesh were British colonies. Like other colonial countries, in Bangladesh, there are also the rudiments of a modern banking system and capital market. They arose originally out of the requirements of foreign investors who transacted business with other country, usually in connection with foreign trade and transmission of funds to their home country. The English investors normally invested their own resources and plowback their earnings. They supplied their own capital and introduced managing agency system to spread their entrepreneurial skills widely and to distribute finance among the enterprises of the agency, which required it. However, some of the members of the urban middle class as well as a few of the wealthier rural families, desired to invest on their own, and there was a demand on the part of the rising urban financiers and industrialists for speculative investment of otherwise idle funds. Stock exchanges arose to provide a center for such purchases and sales. Historically, British India had a large unorganized money market, which met the demand for funds on part of the rural and poor urban population. It was an almost unrelated modern banking system, the main purpose

of which was to supply the short term capital needs of firms whose long term requirements were largely met from internal sources of the firm or the ownership group and a security market which contributed to meeting the long term investment needs of only a few firms. It appears that there was a time when the internal sources and ownership group played a dominant role in providing industrial finance in Bangladesh instead of securities markets. The banking system of Bangladesh has a limited role that distinguishes it from the Japanese Banking system. In Bangladesh, short-term finance in the form of trade credit, working capitals are mainly provided by the British type commercial banks. They provide little in the form of long term loans relative to their total assets and seldom take an equity stake in business (Ahmed, 1997).

In recent years, optimism about an expeditious upgrading of the equity segment of capital markets capable of meeting long term needs of corporate finance of Bangladesh has been observed among some section of observers. This may, perhaps, originate mainly from the persistent accumulation of bank deposits and heavy oversubscription rate of corporate securities over the past few years. Within a general framework, the significance of a stock market stems from its perceived classical role of allocating funds to the most productive sector of the economy.

Financial Institutions and Japanese Experience: Lessons for Bangladesh

Japanese corporate organization, financial management practices and unique institutional arrangements have attracted wide spread attention all over the world. After having started anew from a war-ravaged base, Japan has exhibited a strong economic performance. In this process of development, Japanese financial system

and institutions have played their due roles. Japan has a unique corporate financing system of her own. The salient features of the Japanese corporate finance were 'over-borrowing' by businesses, over-loaned position of banks, indirect financing system, and close relationship between bank and business enterprises. Much attention has been given to understanding of the organization and behavior of firms within its institutional environment whose operations have contributed to this economic performance. The perception that Japanese firm organization, both internal (the employment system) and external (capital structure and interfirm relations) differ in important ways from firm organization of other countries particularly in the United States, has been a matter of great interest (Chowdhury, 1994).

After World War II Japanese financial institutions were expected to contribute to the country's reconstruction by concentrating on their main business, so as to absorb the nation's savings in the most effective and efficient manner and to use this money to finance industries, mainly by means of loans. Along with long-term credit banks, trust banks were the most powerful in the arena of the financial system. However, the exclusive financial group system in Japan faced a major test after 1980, as Japan made a full-fledged appearance in the international market as an economic and financial power. The massive wave of globalization and securitization in the financial world caused by financial technological innovation thrust a challenge to the existing financial institutions and on the existing balance of financial system of Japan. Table-6.3 shows a comparative picture of banking system of Japan, Germany, the United States and Bangladesh. The Japanese

banking sector is as the largest representing 167 percent of GNP followed by Germany having 146 percent while the banking sector of Bangladesh occupies the

Table- 6.3
Relative Size of Banking Sector

Country	Ratio between Assets of Banking Sector and GNP
Japan	Assets of Banking Sector/GNP = Yen728,577bill./Yen436,927bill. = 167%
Germany	Assets of Banking Sector/GNP = \$1,900bill./\$1,300bill. = 146%
United States	Assets of Banking Sector/GNP = \$3,399bill./\$5,465bill. = 62%
Bangladesh	Assets of Banking Sector/GNP = Tk.526,172mill./Tk.940,353mill. = 56%

Source: Prepared from Roe (1993) and Bangladesh Bureau of Statistics (1993)

smallest share, that is, 56 percent. The United State's banking sector is behind Japan and Germany representing 62 percent of the GNP. An insight into the profile of the financial institutions of Japan and Bangladesh is given in Table-6.4 and Table-6.5. It shows the underdeveloped condition of financial institutions of Bangladesh in terms of the number of banks and their branches, assets and liabilities compared to Japan. Thus, these Tables documented the weaknesses of financial sectors especially the banking sector of Bangladesh. It reflects Japan's strong institutional base with sound financial strength. Large financial institutions hold concentrated block of stocks (debt and equity) and usually provide large volume of loans. The Japan Development Bank works as a watch dog and examine the investment projects of potential borrowers and as a rule supply its loans in the form of syndicated loans with private banks. It monitors the performance of the borrower during the loan commitment by requiring reports about the business operation. More often it consults the main bank of a borrowing company to collect

the inside information about the borrower, because the main bank may be better informed than the Japan Development Bank through the institutional arrangements. Diamond (1981) considered the main bank as a particular institutional mechanism, which allows 'delegated monitoring' and intervention in the capital market. While firms had a clear incentive to borrow, lending too highly levered firms (i.e., firms

Table-6.4
Profile of Financial Institutions in Japan, 1990

	Number	Branches	Asset		Loans	
			Yen, Trillion	%	Yen, Trillion	%
Nationwide Banks	13	3,400	210.6	28.4	95.5	37.3
- City Banks						
- Regional Banks	64	7,414	137.7	18.6	106.8	20.4
- Second Association of Regional Banks	68	4,615	55.1	7.5	42.8	8.2
- Long-term Credit Banks	3	70	51.5	7	38.3	7.3
- Trust Banks	7	379	109.3	14.8	23.5	4.5
	155	1,093	564.2	76.3	406.9	77.6
Cooperative Credit Institution						
- Credit Association	454	7,909	74.7.1	9.3	52.7	10.1
- Credit Cooperative	414	2943	19.1	2.6	14.3	2.7
- Labor Credit Associations	47	645	6.7	0.9	3.0	0.6
- Agricultural Cooperative Credit Institutions						
- Norinchukin Bank	1	38	(25.7)	(3.2)	(11.8)	(2.3)
- Shinnoren	47	282	(40.2)	(5.0)	(5.5)	(1.0)
- Nokyo (Agricultural Cooperatives)	3,722	16,314	(51.5)	(6.4)	(13.1)	(2.5)
- Shingyoren	35	155	(2.0)	(0.2)	(0.8)	(0.2)
- Gyokyo (Fisheries Cooperatives)	1,674	2,138	(1.9)	(0.2)	(1.0)	(0.2)
	5,479	18,927	60.5	8.2	30.2	5.8
	6,394	30,424	161.0	21.8	100.2	19.1
Shoko Chukin Bank	1	91	11.9	1.6	10.2	2.0
Foreign Banks	82	121	2.4	0.3	7.0	1.3
Total	6,632	46,514	739.4	100	524.2	100

Source: Tadashi, I., Hisayoshi, T. and Yuji, I (1991)

with high debt/equity ratio) would seem extraordinarily risky from the bank's perspective. The main bank relationship allows member firms' continued borrowing up to seemingly extraordinary debt to equity ratios. The relationship tends to be both long-term and very close, with the bank being privy to extensive and confidential information on the firm's operations as well as its medium and long-term plans. Consequently, the main bank's evaluation was typically accepted by little question by others (Hodder and Tschoegl, 1985). The internal capital market formed by groupings of firms in Japan has two important functions: i) it enables firms to diversify their risks and ii) it affords the management of firm's insulation from external capital markets.

Table-6.5
Profile of Financial Institutions in Bangladesh, 1999

Institutions	Number	Branches	Assets	Liabilities
Nationalized Commercial Banks	4	3620	Tk.2460061.10 million	Tk.419271.30 million
Private Commercial Babks	26	1245		
Foreign Commercial Banks	13	32		
Specialized Banks	9	2403		
Total	52	7300		

Source: Statistical Year Book of Bangladesh, Bureau of Statistics, May 2001

In a conventional capital market, the shareholders are the residual risk-bearers, but in the internationalization of capital market within the group in Japan, the main bank's corporate insuring gives it the charter of, what could be termed, a quasi risk bearer. Bank executive often publicly affirm that their role in providing corporate insurance as main bank in the Japanese financial system. For instance, the former President of Sumitomo Bank is quoted as saying that "we are always prepared to help out whenever group member companies are in trouble. We won't allow any group member companies to go into business failure".

As Bangladesh enters the 21st century it is natural to wonder if its economic and financial performance has matched with the expectations of those who witnessed its birth. An insight into this issue can be given from the institutional environment that has important bearings in achieving this goal. The economic policy regime has changed significantly over the years from state-bureaucratic controls and industrial autarky towards market oriented liberalizing policy reforms. However, the rapid changing institutional and policy environment in the country has proved inadequate to serve the need for on-going development in the financial sector. The decline in performance of the Development Financial Institutions is related with the lack of financial support to the development of private sector. There was hardly any mobilization of domestic savings, so that the investment boom ended abruptly in the beginning of the 1980s. The policy reforms in the 1980s, initiated under the bank-fund conditionalities, included mainly the privatization of state-owned enterprises and financial liberalization and reform of the early 1990s were aimed at moving towards an open economy characterized by the convertibility of currency , removing control on the movements of foreign capital. The launching of policy reforms in the beginning of 1990s marked increase in the savings deposit rate. However, the increase in the saving rate was not matched by an increase in the investment GDP ratio (Mahmud, 2002).

The manifestations of a non-performing regulatory framework are nowhere so evident in the financial sector of Bangladesh. The reasons rest on the fact that Bangladesh went for financial liberalization without providing adequate regulation and supervision for the financial institutions. A notable example is the recent share market debacle in 1996. In commercial banking, interest rate deregulation along

with the setting up of banks in the private sector led to an increase in the real lending rates. Moreover, because of the inefficient and corrupt-ridden banking system, there was apprehension that a large part of the credit flow would turn into bad loans. The wide spread culture of loan default has led to a rise in a high costs of financial intermediation by financial institutions reflected by the large spread between the deposit and lending rates of interest currently as high as 7%-8% (Mahmud, 2002). World Bank estimated that about 37 percent of the loan of the then six nationalized commercial banks' annually passed due dates of payments. The reasons for loan default on such a large scale are also aggravated by politically influenced loan given by public sector loans and insider loans given to owner-director by private sector banks and the weakness of legal and institutional provisions for loan recovery. The borrowers of commercial banks mainly constitute industrialists, traders, importers and exporters who took loan for working capital, capital investment and for other purposes. Even a good number of borrowers of Bangladesh Shilpa Bank and Bangladesh Shilpa Rin Sangstha have been receiving working capital from commercial banks. These have resulted in a low level of key operations by these institutions over the recent years. The increasing cost of financial intermediation, non repayment of bank and other financial institutions' loans also create severe problems for recycling loanable funds for financing new investments and the effectiveness of loan utilization is reduced by low equity participation and by diversion of funds for non-investment purposes. These factors adversely affect the financial sector and its environment for operation. Therefore, the surge in credit disbursements had to be controlled not only to keep monetary expansion under safe limit, but also to check a further

deterioration in the banking discipline and for maintaining quality of bank lending through developing the institutional environment and that is the foremost concern of financial management sector.

On the contrary, the financial institutions in Japan are able to screen, monitor and intervene in the management of the firms through their unique aspect of capital market structure with the existence of the main bank. In the text book model, it is the share price mechanism which drives the system. In case of ailing firms, demand for the shares falls resulting in low share price as well as difficulty to raise funds from the capital market. Consequently, liquidation takes place through a legal process. Alternatively, the assets of the firm may be rationalized through takeover mechanism. But under the institutional arrangements in Japan, the large firm in a financial corporate group is able to avert sudden bankruptcy or takeover bid because of the back up received from its main bank or other business partners.

In view of the previous discussion and the prevailing crises in the financial environment of Bangladesh the Japanese experience can be explored. The introduction of private banks and the governments' endeavor for rapid development through industrialization, the unique main bank system, if introduced, may have favorable impact in accelerating the health of financial institutions and financial sector management. For introducing this system in Bangladesh, development of business group in the private sector needs to be encouraged wherein main bank will act as the nucleus of the group. In Japan, certain wealthy families occupied this position before World War II, whereas a particular bank occupied this position after the War, which is referred to as the main bank evolving a new dimension in the financial institution environment.

For the development of this system, Bangladeshi banks may be encouraged to purchase the stocks of the enterprises up to a certain limit, which will form the group creating bank. The bank's shareholding may be interpreted as a means of maintaining customers' relationship with borrowing firm and realizing the preference. This process will maintain stable long-term business relationships with borrowers than to rely on short-term spot transactions. Moreover, this will provide the bank with privileged access to internal information of the firm required for loan assessment, follow up and constant monitoring which are costly for outsiders. On the other hand, increasing amount of deposits among the small savers who are risk averse and subject to relatively higher transaction cost of shareholding can easily be channelized to the productive sector. This system will have its particular advantage in an underdeveloped condition of financial system and environment in Bangladesh for ensuring efficiency and of minimizing conflict between different participants in the corporation.

The patterns of financial and regulatory environment of Japan and Bangladesh have been focused based on the market structure of these two countries. It shows that Japan is still more highly bank based financed than Bangladesh. In Japan, a relatively large section of banking sector has influenced the Japanese corporate structure with shared authority at the top, large financial intermediaries that hold concentrated blocks of stock, interaction of bankers and managers in structured settings and multiple intermediaries that split the vote. Moreover, it is observed that significant differences exist between Japan and Bangladesh at the extent to which investors are allowed simultaneously to be major debtholders and shareholders of the same firm. Japanese financial institutions are allowed to take

large positions in the debt and equity of the same firm, but Bangladeshi financial institutions are not. This difference may affect the degree to which these large investors can reduce the inherent principal-agent conflict between the shareholders and debtholders of the firm. It reveals that main bank relationships and group membership may provide some insurance against risk of financial distress and may solve some problems in the capital markets, thereby, allowing greater use of outside financing for investment. The role of main bank in normal management of firms is more closely linked with the role as shareholders than with their role as major lenders. These characteristic features are not available in Bangladesh. It can be argued that institutional environments and financial institutions and their linkage with firms are widely believed to play an increasingly important role in corporate governance and in mitigating agency conflicts and costs in Japan in comparison to Bangladesh.

Chapter 7

Determinants of Capital Structure: Empirical Evidence from Japan and Bangladesh

The optimal capital structure for a firm is now widely regarded to be determined by a broad range of factors including a mix of tax effects, the various agency problems associated with different securities and the cost of issuing securities including costs created by adverse selection. However, there is relatively little empirical evidence on determinants of the firm's capital structure. Although there have been sporadic empirical investigations (see, e. g., Bradley et al., 1984; Kim and Sorensen, 1986; Scott, 1972 ; Scott and Martin, 1976; and Toy et al., 1974) reporting cross-sectional regularities in capital structure across different industries and firms, very little is known about why such empirical regularities exist and what the important factors are affecting them.

During the last two decades, various new managerial theories of the firm (e. g., Jensen and Meckling, 1976; Myers, 1977; and Amihud and Lev, 1981) have evolved in the context of agency theory and the two related problems of agency and informational asymmetry have received increasing attention in finance. These modern views bring more realism to the theory of capital structure by addressing agency problems in the context of the firm which is viewed as a nexus of contracts among various parties, where the contractual relationship involves incentive conflicts arising from the pursuit of self-interest (Chung, 1993).

The costs associated with common stock financing are precipitated by the manager's propensity to consume non-pecuniary benefits or perquisites (perk) for

which he/she pays a fractional direct cost in proportion to his/her ownership interest in the firm. However, with rational expectations, he/she pays for the perks indirectly through a reduction in the price at which outside capital contributors are willing to purchase the shares. On the contrary, the cost associated with debt financing are precipitated by the manager's incentive to transfer wealth from bondholders to shareholders by either i) increasing the risk associated with the assets of the firm or ii) foregoing otherwise profitable investment opportunities (Myers, 1977). The agency costs of debt financing have also been related to the costs associated with bankruptcy proceedings. It is argued that the capital structure of the firm can be determined in the process of eliminating, or at least reducing, the costs associated with these problems.

The primary focus of this study is to test the relationship between agency theory variables and capital structure for Japanese and Bangladeshi firms separately. Since a capital structure model solely based on agency variables would be under-specified (less than fully specified), other potential determinants of capital structure are included in the theoretical model.

Specification of the Model and Measurement Issues

The model used in this study is based on a model developed by Dodd (1986) to test the determinants of capital structure. According to this model, capital structure is determined by the variables shown in equation (1):

The variables and measurement issues are explained below. Many of the theoretical variables in equation (1) are not directly observable. Thus, proxy variables are required for testing of the model. Following Dodd (1986) the proxy

variables are used as below. The rationale for each of the variables, their expected signs and measurement issues are also discussed.

$$CS = f(AE, AD, BR, GR, PR, OL) \dots\dots(1)$$

Where,

CS = Capital Structure

AE = Agency-Equity

AD = Agency-Debt

BR = Bankruptcy Risk

GR = Growth Rate

PR = Profitability

OL = Operating Leverage

Dependent Variable

The dependent variable used in this study for capital structure is the debt ratio which is measured by dividing the book value of total debt by the book value of total claims (debt plus equity). The book value instead of market value is used in our study because it has been successfully used in several empirical studies of debt ratios (for example, Toy et al., 1974; Ferri and Jones, 1979; Titman, 1983; and Dodd, 1986).

Agency Variables

Theoretically, the firm's capital structure should result from balancing the costs of certain relationships between firm related groups.

i) Agency-Equity Cost: Although managers are expected to act in the best interest of the firm's owners, they may deviate from their objectives. Managers are often torn between two companies' objectives, the firm's and their own. Conflicts of

interest should be expected since the interest of principals and agents diverge primarily because these different groups have different utility functions. In turn, this can lead to direct conflict over the use to which resources are put (Jensen, 1986). It is also argued that agency problem of equity appear under informational asymmetry and under excessive perk consumption. Thus, agency–equity cost is the cost of the relationship between managers and shareholders. It is argued that agency-equity cost tend to discourage the use of equity.

Different measures are used to examine ownership structure and several different criteria are used to operationalize the concept of control. However, there is no consensus on the amount of equity required to maintain ownership control. Fama and Jensen (1983), introduce the structure of the distribution of shares as an influence on the levels of agency costs incurred for capital structure. They argue that a widely-held firm is expected to have higher agency-equity costs than a closely-held firm. Then, widely-held firm should have higher debt ratios compared to the closely-held firms. The proxy for this variable used is the percentage of share held by the largest shareholders. Various studies, Chow (1982), Hindley (1970) and Neihaus (1985), have used the percentage of the firm's common stock owned by directors and managers as explanatory variable in their corporate ownership and control model. The agency-equity proxy is expected to be inversely related to debt ratio.

ii) Agency-Debt Cost: Securing external fund through debt financing gives rise to agency cost from conflict of interest between shareholders and debtholders. If a corporation has both debt and equity capital, the manager may take decision that will benefit equityholders at the expense of bondholders. Conflicts can arise from

discrepancies between the dividend, financing or investment policies that were expected when the debt was originally issued and those policies that are actually followed (Chowdhury, 1996a). Jensen and Meckling (1976) argue that financing through issuance of risky debt tend to increase agency cost i.e., by owner – manager’s propensity to engage in high investment projects to transfer wealth from bondholders to shareholders.

In discussing shareholder-debtholder conflict Wakasugi (1987) has identified four types of agency-debt costs. These are i) cost of disclosure when issuing ii) opportunity cost resulting from managers’ act for shareholders’ profit iii) cost caused by difficulty of pricing the debt and iv) opportunity loss resulting from incorrect decision.

Hence, agency problems of debt are associated with these costs as well as with risk incentive and bankruptcy. Thus, agency-debt cost is the cost of the relationship between shareholders and debtholders, and this cost tends to discourage the issuance of debt.

Studies by Jensen and Meckling (1976), Myers (1977) and Galai and Masulis (1976) examine the incentive that exist for shareholders of a levered firm to appropriate wealth from debtholders by making sub-optimal investment decision that compromise debtholders’ interest but serve the interest for the shareholders. The greater the perceived scope for opportunistic behavior of shareholders, the higher should be the required interest payment on debt, and consequently, the lower should be a firm’s optimal debt-equity ratio. Myers (1977) suggests that one way of avoiding uncompensated risk change is to shorten the maturity of debt.

Given a total debt to total financing ratio the shorter the maturity of debt, the lower is agency-debt costs.

Various proxies for the size of potential conflict between shareholders and debtholders have been used by past empirical studies (e.g., Titman and Wessels, 1988; Smith and Watts, 1986 and Long and Malitz, 1985). In this study due to difficulties in getting the maturity of debt securities the ratio of short-term debt to total debt is used as agency-debt variable. It is assumed that agency-debt cost should be lower for a firm with high short-term debt ratio. On the contrary, agency-debt cost should be higher if a firm has low short-term debt ratio. Thus, the relationship between debt ratio and agency debt cost is expected to be positive.

iii) Bankruptcy Cost: Corporate tax system favors the firm to introduce more debt capital, and in this process the possibilities of bankruptcy becomes greater since the firm is more likely to default on interest and capital repayments. If the transfer of ownership from shareholders to bondholders under default is costless, the mere possibility of bankruptcy should have no impact on the capital structure (Baron, 1976; Fama, 1980; Haugen, 1976 and Stiglitz, 1974). Since it is impossible to write contracts which specify clearly and unambiguously the right of claimholders under contingencies, one or more of the parties may precipitate a dispute that may be resolved in the process of formal bankruptcy proceedings. The proceedings are not costless. They involve a legal process which itself consumes a portion of the remaining value of the firm's asset. The proportion of debt in the capital structure affects the probability of bankruptcy and the expected value of the bankruptcy costs, if any, it is to be borne by the equityholders. Bankruptcy costs are identical to other agency costs in this respect (Barnea et. al., 1981). Thus, a higher risk of

bankruptcy should reduce the attractiveness of debt, and optimal capital structure with a higher bankruptcy risk should contain low amount of debt.

In the previous studies the expected costs of bankruptcy are represented by a measure of the probability of bankruptcy. Many authors have suggested that firms with higher operating risk may have less capacity to sustain high debt ratios. Following previous studies, in this study bankruptcy risk variable is equated with business risk in terms of coefficient of variation of the ratio of EBIT to total assets. In an earlier study coefficient of variation was also successfully used by Kim and Sorenson (1986) in his agency cost model. This proxy variable should be inversely related to debt ratio.

Other Variables

Three other potential determinants of capital structure are also included in the model. These variables are a firm's specific characteristic features of growth rate, profitability and operating leverage.

iv) Growth Rate: It is held that firms growing at higher rates should have higher debt ratios than firms with lower growth rates. For some firms, internally generated funds may not be sufficient to maintain the high growth rates, thus requiring the use of external financing. Since additional risk premium is required by equityholders as residual claimants for high growth firms, the cost of equity capital may be distorted in relation to the cost of debt capital.

Following previous studies, the growth variable is defined as the growth rate in assets of the firm (Toy et. al., 1974; Vanhorne, 1983). High rates of growth are expected to be accompanied by high debt ratios. The proxy for this variable is the

compounded growth in assets for five years. The relationship between debt ratios and growth rate is expected to be positive.

v) Profitability: Profitability is included as an explanatory variable in this model under the belief that debt policy is influenced by a company's ability to service debt and fund projects internally with anticipated cash flow. Chaplinsky, 1983; Bradley et al., 1984; and Titman and Wessels, (1988) hypothesize that the firm's optimal debt ratio is a decreasing function of earnings' volatility. Thus, firms with higher profitability ratio may be expected to have more equity than firms with lower ratios. A firm generating large amounts of internally generated capital i.e., retained earnings should require less equity financing. The proxy for this variable is earnings before interest and taxes (EBIT) divided by total assets. This proxy variable should be inversely related to debt ratio.

vi) Operating Leverage: Operating leverage is the use of fixed costs in the operation of the firm. A firm has a high degree of operating leverage if it employs a greater amount of fixed costs and a small amount of variable costs. On the other hand, if the firm incurs a greater amount of variable costs and employs a small amount of fixed costs, then it will have a lower degree of operating leverage. Previous studies have shown the operating leverage is one of the determinants of debt level in a firm's capital structure. Due to the reason mentioned above, management of companies with high operating leverage may use relatively lower levels of financial leverage i. e., debt. The proxy for this variable is the ratio of the percentage change in EBIT to the percentage change in sales. This proxy variable is expected to be inversely related to debt ratio.

It should be noted that, due to the non-availability of data for the agency-equity variable for Bangladeshi firms we have excluded this variable from the regression equation of Bangladesh. Thus, this is one of the limitations in this study.

Data Comparability, Sample Characteristic and Limitations

Data Comparability between Japan and Bangladesh: One of the important aspects in this study is the comparability of accounting data between Japan and Bangladesh. There are a few specific areas where accounting principles and reporting practices for Japanese and Bangladeshi firms differ in some respect. The comparison made here primarily focus on differences within the behavioral pattern of each country. The major differences in accounting principles and reporting practices between the two countries are given below:

Depreciation Allowances: Depreciation is an allowable tax expense in both countries. The predominant practice among Japanese firms is the use of the double declining or accelerated method of accounting for depreciation. Whereas, the predominant practice of Bangladeshi firms is either the use of straight line or reducing balance depreciation in their accounting statements. This difference may introduce some inconsistencies between Japanese and Bangladeshi firms' reported earnings and total assets. However, the potential disparity in the proxy variables from these accounting differences may not be unacceptably too large. Prowse (1989) holds that the net effect of the differences in depreciation allowances may become immaterial. Accordingly, we have not adjusted to take into account these differences in accounting policy which may be considered as a limitation of this study.

Revaluation of Assets in Response to Inflation: Company balance sheets in both countries are struck at historic cost. Comparability problems will arise when one country revalues assets in response to inflation at a different rate than the other. Both in Japan and Bangladesh, capital assets have generally failed to be adequately revalued over time. So no adjustment is required in this respect.

Surplus Entries: The Japanese accounting system allows for some additional entries that are not available for Bangladeshi firms. The entries of consequences include i) reserves for tax deferral of certain items ii) additional deferred charges and iii) items offsetting retained earnings without passing through income. These differences will tend to lower measures of net income of Japanese firms relative to Bangladeshi firms. However, this study compares the EBIT of the firms in the two countries. These appropriations are taken against earning before taxes. Hence, the proxy variable used in this study remains unaffected. Therefore, no adjustment is necessary for this disparity.

Unconsolidated Subsidiaries: Another difference in accounting practices involves the requirements for and methods of preparing consolidated financial statements in each country. Consolidated statements provide information about the full range of a firm's activities by combining the financial statements of a parent company with those of its foreign and domestic subsidiaries. The selected samples for Bangladeshi firms in this study do not have any subsidiary, and therefore, necessity does not arise for adjustment (Chowdhury 2000).

Hypothesis, Methodology, Sample Characteristics and Test of Statistical Assumptions

The variation in capital structure among the firms can be explained by the six explanatory variables that are included in the model. Moreover, the theory argues that agency-debt and growth rates in assets will have positive effects on capital structure while agency-equity, bankruptcy risk, profitability and operating leverage will have negative effects on capital structure. The null hypothesis for agency-debt variable is that the cross sectional relationship to debt ratios for Japanese firms is equal to or more positive than Bangladeshi firms. The alternative hypothesis is that the relationship is less positive for Bangladeshi firms. The expected result is that the relationship is less positive for Japanese firms than that of Bangladeshi firms. The null hypothesis for the bankruptcy risk variable is that the cross-sectional relationship to debt ratios for Japanese firms is equal to or more negative than Bangladeshi firms. The alternative hypothesis is that the relationship to debt ratios for Japanese firms is less negative than Bangladeshi firms. The expected result is that the relationship of bankruptcy risk and debt ratios in Japanese firms is less negative than Bangladeshi firms. However, due to non-availability of agency-equity data for Bangladeshi firms' cross-sectional relationship for this variable could not be tested. Thus, this is one of the limitations of this study.

To test the hypotheses of this study, multiple regression analysis using the least square estimation method is used. Regressions are estimated separately for Japanese and Bangladeshi firms. Least square method of estimates require certain assumptions which includes: i) the relationship between the dependent and independent variables are linear and ii) the residual term should be normally

distributed with zero expectation, not correlated with the independent variables, and have constant variance (Neter and Wasserman, 1974). If the assumptions are met, least square estimates are “best linear unbiased estimates”. The estimated regressions are examined for the appropriateness of these assumptions.

The test for model specification error employed is an F test procedure to determine if the empirical model explains a significant proportion of the total variance in debt ratios. If the F value is significant, it is held that the relationship is linear. The other assumptions involving error terms are tested directly. The assumption of constant variance is also tested directly by using rank correlation between the absolute value of the residual and each of the independent variables. The test method for testing error term normality is the Kolmogorov-Smirnov procedure. The presence of multicollinearity is tested through Pearson correlation method.

One of the important tests for comparing two regression equations is to obtain information about their differences; this is developed by Chow (1960), popularly known as Chow test, although it is simply the F test distribution mentioned earlier. The first step in the process is to establish whether there is a difference in the two regression equations. The general linear models approach is used to test the equality of the two equations. The steps involved in this process are: i) Fit the full model and obtain the error sum of squares ii) Fit the reduced or restricted model and obtain the error sum of squares and iii) Calculate the F statistic. The full model is obtained by estimating separate regressions for Japanese and Bangladeshi firms. The sum of squared errors for the Bangladeshi firm regression is added to the sum of squared errors for the Japanese firm regression to yield the sum of squared

errors of the full model. The reduced model error sum of squares is obtained by pooling Japanese and Bangladeshi firm data and estimating a regression equation. The sum of squared errors of this regression is the reduced model sum of square errors. The F statistic is obtained by calculating the ratio of the difference between sum of squared errors of the reduced model and the sum of squared errors for the full model to the sum of squared errors of the full model. If it is established that the two regressions differ, the slope of the coefficients may be examined individually. The t statistic is used for comparison. The calculated t value is then compared to the critical t value at the desired level of significance. If the calculated value exceeds the critical value the null hypothesis is rejected. If the null hypothesis is rejected, the variables (agency proxies) under consideration are significantly different in Japan and Bangladesh. If the null hypothesis is not rejected, a significant difference in the agency proxies between the firms in Japan and Bangladesh is not supported.

Financial cross-section data are obtained for the period 1989-1994 and 1995-2000 for the variables discussed in the previous sections for both Japanese and Bangladeshi firms. For the period 1989-1994 the sample consists of 50 Japanese firms and 30 Bangladeshi firms and for the period 1995-2000 the sample consists of 100 Japanese firms and 50 Bangladeshi firms. All the firms have traded stock publicly and have financial data available for at least six years. All the Japanese firms have publicly traded on the "First Section" of Tokyo Stock Exchange. All Bangladeshi firms have publicly traded on Dhaka Stock Exchange. The data for the Japanese firms are obtained from the Financial Disclosure Reports (*Yuka Shoken Hokokuso*) published by Ministry of Finance (*Okurasho*) and Japan

Company Hand Book, published by *Toyo Keizai* Inc. The data sources for the Bangladeshi firms are collected from the "Annual Reports" of the individual firms. The distribution of samples for Japanese and Bangladeshi firms across the industrial categories is given in Chapter -2. Table-7.1 provides definitions of all the variables in the study followed by summaries of the sample characteristics for Japanese and Bangladeshi firms in Tables-7.2 and 7.3.

Table – 7.1
Variable Definitions

Variables	Definition
Debt Ratio (DR)	Ratio of total debt to total financing at book value
Agency-Equity (AE)	Percent of shares owned by largest shareholders
Agency-Debt (AD)	Ratio of short-term debt to total debt
Bankruptcy Risk (BR)	EBIT coefficient of variation
Growth Rate (GR)	Compounded growth in assets (5 years)
Profitability (PR)	Ratio of EBIT to total assets
Operating Leverage (OL)	Ratio of percentage change in EBIT to percentage change in sales.

Table – 7.2
Sample Characteristics
(Japanese Firms)

Variables	Mean (1989-1994)	Mean (1995-2000)	Standard Deviation (1989-1994)	Standard Deviation (1995-2000)
Debt Ratio	0.6206	0.6080	0.1575	0.1595
Agency-Equity	0.4528	0.4357	0.1170	0.1098
Agency-Debt	0.6434	0.6364	0.1641	0.1597
Bankruptcy Risk	0.2564	0.2675	0.1724	0.1716
Growth Rate	0.0751	0.0757	0.0712	0.1206
Profitability	0.0564	0.0516	0.0223	0.0210
Operating Leverage	1.4384	5.1042	16.8611	10.4062

Table – 7.3
Sample Characteristics
(Bangladeshi Firms)

Variables	Mean	Mean	Standard	Standard
	(1989-1994)	(1995-2000)	Deviation (1989-1994)	Deviation (1995-2000)
Debt Ratio	0.6736	0.7037	0.1615	0.5534
Agency-Debt	0.7175	0.7005	0.2468	0.2222
Bankruptcy Risk	0.6167	0.3349	0.4839	0.8820
Growth Rate	0.0905	0.1166	0.1036	0.1398
Profitability	0.0542	0.0700	0.0504	0.0721
Operating Leverage	1.9691	6.2550	15.1640	35.4135

The test results for the constancy of error variance (homoscedasticity) are given for Japanese firms in Table-7.4 and for Bangladeshi firms in Table-7.5. The test statistic is the Spearman Rank Correlation coefficient of the independent variable and the absolute value of the residuals. A significant relationship indicates that the least square estimates may be biased. These results show that homoscedasticity can be assumed as none of correlations of the independent variables with the error term significant at the 5 percent level and therefore, constant variance of the error term is assumed for the Japanese and Bangladeshi firms.

Table – 7.4
Spearman Rank Correlation Coefficients and Probabilities of Absolute Value of
Regression Residuals and Independent Variables for Japanese Firms' Sample

Independent Variables	Correlation (1989-1994)	Correlation (1995-2000)
Agency- Equity	0.2280 (0.1121)	0.2440 (0.1920)
Agency – Debt	0.0007 (0.9590)	0.2160 (0.0310)
Bankruptcy Risk	-0.2440 (0.0880)	-0.2750 (0.006)
Growth Rate	0.0800 (0.5790)	0.0030 (0.976)
Profitability	-0.0760 (0.6020)	0.1920 (0.056)
Operating Leverage	0.1390 (0.3360)	0.0550 (0.585)

Note: 1. Correlation probabilities are presented in the parentheses
 2. Decision Rule – Reject homoscedasticity when correlation probability is less than or equal to 0.05

Table –7.5
Spearman Rank Correlation Coefficients and Probabilities of Absolute Value of
Regression Residuals and Independent Variables for Bangladeshi Firms' Sample

Independent Variables	Correlation (1989-1994)	Correlation (1995-2000)
Agency – Debt	-0.1360 (0.4740)	0.1462 (0.5134)
Bankruptcy Risk	-0.0340 (0.8580)	-0.1680 (0.2430)
Growth Rate	-0.0520 (0.7860)	- 0.1300 (0.3670)
Profitability	-0.0510 (0.7870)	0.1220 (0.3980)
Operating Leverage	-0.1180 (0.5340)	0.0870 (0.5500)

Note: 1. Correlation probabilities are presented in the parentheses
 2. Decision Rule – Reject homoscedasticity when correlation probability is less than or equal to 0.05.

Table –7.6
Distribution of Characteristics of Residuals of
Japanese Firms' Regression Model

		Moments			
		(1989-1994)	(1995-2000)	(1989-1994)	(1995-2000)
Mean:	-4.0E-10	6.18E-17	Standard	0.1302	0.1294
			Deviation:		
Skewness:	0.2780	-0.701	Kurtosis:	0.2620	0.0590
D: Normal:	0.0570	0.712	Prob > D:	>0.4020*	0.6990*
Quantiles:					
		(1989-1994)	(1995-2000)		
	100% Max	0.3066	0.2400		
	75% Q3	0.1024	0.0949		
	50% Med	0.0041	0.0179		
	25% Q1	-0.0852	-0.0807		
	0% Min	-0.3423	-0.3744		

*Reject normality at = 0.05, when prob > D is less than 0.05

The test for normality of error term is done through Kolmogorov-Smirnov (K-S) procedure (Neter and Wasserman, 1974). The rejection of the assumption of error normality implies that the least square estimates are not normally distributed and thus the confidence limits for the standard t and F statistics are not appropriate. The decision rule is to reject the null hypothesis of the error normality if the probability of the K-S D statistic is 0.05 or less. The K-S test for the normality of error terms for the Japanese Firms is shown in Table- 7.6 and for Bangladeshi Firms in Table- 7.7 including the Skewness, Kurtosis measures and Quantiles distributions. It is revealed from these tables that the D statistics is greater than 0.40 for the period

1989-1994 and 0.69 for the period 1995-2000 for Japan and greater than 0.49 for the period 1989-1994 and 0.78 for the period 1995-2000 for Bangladesh respectively and thus error normality is assumed for the Japanese and Bangladeshi firms.

Table – 7.7
Distribution of Characteristics of Residuals of Bangladeshi Firms' Regression Model

		Moments			
		(1989-1994)	(1995-2000)	(1989-1994)	(1995-2000)
Mean:	8.54E-11	-8.8817-E18	Standard Deviation:	0.1164	0.3785
Skewness:	-0.2780	1.0840	Kurtosis:	0.2620	5.3490
D: Normal:	0.0853	-1.0430E-09	Prob > D	0.4980*	0.7830*

Quantiles:

		(1989-1994)	(1995-2000)
100%	Max	0.2146	1.5437
75%	Q3	0.0867	0.1623
50%	Med	0.0145	0.0004
25%	Q1	-0.0610	-0.2378
0%	Min	-0.2313	-1.0393

*Reject normality at = 0.05, when prob > D is less than 0.05

Table – 7.8
Correlation Matrix (Japanese Firms) (1989-1994)

	AE	AD	BR	GR	PR	OL
AE	1.00	0.2093 ^a	-0.1006	0.0792	0.0145	0.1505
	(0.0)	(0.145) ^b	(0.487)	(0.583)	(0.918)	(0.297)
AD	-	1.00	0.2438	-0.3813	0.1286	-0.0215
		(0.0)	(0.089)	(0.006)	(0.377)	(0.882)
BR	-	-	1.00	-0.0423	-0.0851	-0.0358
			(0.0)	(0.756)	(0.549)	(0.805)
GR	-	-	-	1.00	0.1291	0.1863
				(0.0)	(0.371)	(0.195)
PR	-	-	-	-	1.00	0.0250
					(0.0)	(0.861)
OL	-	-	-	-	-	1.00
						(0.0)

a - Pearson Correlation coefficient

b - Probability

Table – 7.9
Correlation Matrix (Japanese Firms)
(1995-2000)

	AE	AD	BR	GR	PR	OL
AE	1.00 (0.0)	0.1740 ^a (0.083) ^b	-0.1650 (0.102)	0.0400 (0.693)	0.1460 (0.148)	0.1360 (0.178)
AD	-	1.00 (0.0)	-0.0920 (0.362)	-0.2840 (0.004)	0.1850 (0.065)	-0.0320 (0.752)
BR	-	-	1.00 (0.0)	-0.0690 (0.497)	-0.2040 (0.041)	-0.0460 (0.648)
GR	-	-	-	1.00 (0.0)	-0.0980 (0.333)	0.1700 (0.092)
PR	-	-	-	-	1.00 (0.0)	-0.0470 (0.643)
OL	-	-	-	-	-	1.00 (0.0)

a - Pearson Correlation coefficient

b - Probability

Table – 7.10
Correlation Matrix (Bangladeshi Firms)
(1989-1994)

	AD	BR	GR	PR	OL
AD	1.00 (0.0)	0.117 ^a (0.539) ^b	-0.079 (0.677)	0.217 (0.249)	0.002 (0.990)
BR	-	1.00 (0.0)	0.109 (0.566)	0.100 (0.0)	0.006 (0.976)
GR	-	-	1.00 (0.0)	-0.202 (0.284)	-0.036 (0.851)
PR	-	-	-	1.00 (0.0)	0.229 (0.223)
OL	-	-	-	-	1.00 (0.0)

a - Pearson correlation coefficient

b - Probability

Table – 7.11
Correlation Matrix (Bangladeshi Firms)
(1995-2000)

	AD	BR	GR	PR	OL
AD	1.00 (0.0)	0.021 ^a (0.884) ^b	-0.088 (0.544)	0.140 (0.332)	-0.223 (0.119)
BR	-	1.00 (0.0)	0.061 (0.673)	-0.085 (0.557)	0.059 (0.685)
GR	-	-	1.00 (0.0)	0.027 (0.854)	-0.155 (0.281)
PR	-	-	-	1.00 (0.0)	-0.040 (0.782)
OL	-	-	-	-	1.00 (0.0)

a – Pearson correlation coefficient

b – Probability

To test if multicollinearity problem exists or not, i.e., if the independent variables included in the model are materially collinear, standard errors of the regression coefficients may be artificially inflated causing difficulty in interpreting the statistical results (Pearson Correlation Coefficients) that are shown for Japanese firms in Tables-7.8 and 7.9 and Tables- 7.10 and 7.11 for Bangladeshi firms were examined. A subjective decision rule is to reject the null hypothesis of independence if any correlation coefficients exceed 0.50 was instituted. It is very clear from the tables that there is no multicollinearity problem in the estimation of the model for Japan and Bangladesh. None of the coefficients exceed 0.50, thus, collinearity does not appear to be a material consideration in interpreting the Japanese and Bangladeshi regression models.

Analysis and Interpretation of Results

Few empirical studies of agency theory have extended the analysis of capital structure determination to the cross section data of Japan and Bangladesh. Because of the lack of international application of agency concepts, this study attempts to extend agency research by testing the relationships of agency theory variables with capital structure for Japanese and Bangladeshi firms.

The hypotheses are that the variation in capital structure among the firms can be explained by the six explanatory variables included in the model. Moreover, the theory argues that agency-debt and growth rates in assets will have positive effects on capital structure while agency-equity, bankruptcy risk, profitability and operating leverage will have negative effects on capital structure. To test the hypotheses of this study, multiple regression analysis using the least square estimating method is used. Regressions are estimated separately for Japanese and Bangladeshi firms.

The estimated results for Japanese firms are presented in Table-7.12. According to the table, the coefficient of multiple determination (R^2) for the period (1989-1994) is 0.32 and for the period (1995-2000) is 0.34 respectively, while the overall fit of the regression is statistically significant, where the computed F statistic is 3.33. and 7.99 respectively for the two periods under study.

As for the parameter estimates (1989-1994), out of six variables three are found significant and have the correct signs. These variables include bankruptcy risk, profitability and operating leverage. Among the other insignificant variables, (agency-equity, agency-debt and growth rate) only agency-debt has the expected theoretical sign. For the other three determinants of capital structure (debt ratio),

for Japan two variables (profitability and operating leverage) are found significant with the expected theoretical signs, while the growth rate variable is not significant and has the wrong sign.

On the other hand, for the periods (1995-2000) the parameter estimates shows, out of six variables four are significant and have the correct signs. These variables include agency equity, bankruptcy risk, growth rate and profitability. Agency-debt variable was insignificant possessing the wrong sign. The other three determinants of capital structure (debt ratio), for Japan two variables (growth rate and profitability) are found significant with the expected theoretical signs, while the operating leverage was insignificant possessing the theoretically expected sign.

Table – 7.12
Japanese Firm's Regression Results

Independent Variables	Estimated Coefficient	Standard Error (1989-1994)		t Statistic	Standard Error (1995-2000)	
Intercept	0.7805	0.1184	6.5920	1.000	0.086	11.651
Agency-Equity	0.0039	0.1807	0.0215	-0.211	0.128	-1.654**
Agency-Debt	0.1296	0.1452	0.8925	-0.042	-0.090	-0.475
Bankruptcy Risk	-0.2092	0.1220	-1.7147**	-0.463	0.081	-5.710*
Growth Rate	-0.2102	0.3192	-0.6585	-0.272	0.119	-2.289*
Profitability	-3.0531	0.9241	-3.3038*	-2.644	0.662	-3.994*
Operating Leverage	-0.0024	0.0012	-2.00**	0.0017	0.001	1.320
		R ²	0.32		R ²	0.34
		F Statistic	3.33		F Statistic	7.99

* Significant at the 5 percent level

** Significant at the 10 percent level

According to our regression results (1989-1994), the two agency cost variables (agency-equity and agency-debt) are not statistically significant for Japanese firms. It is also found that the agency-equity relationship for the Japanese firms was not significant and was seen to have the wrong sign. However, for the period 1995-

2000 one agency cost variable i.e., agency-debt variable was not significant and had the wrong sign (in Table-7.16). Our results support that of Dodd (1986). This result was expected because of the unique shareholding structure and institutional arrangements among the enterprises of the group.

The stockholder plays a peculiar role in Japan unlike that of the risk-taking stockholder. Stockholder of most of the large Japanese corporations used to be classified in two broad categories: i) non-related (Public) stockholders and ii) related stockholders. Non-related stockholders own a relatively small proportion of the common stock of major Japanese corporations. The bulk of common stock in major corporation is closely-held by trusted individuals, financial institutions, and individual firms that have business relationships with each other. The motive for holding the stock is not really for portfolio investment but rather for maintaining existing creditor, supplier or customer relationship (Stonehill, 1975). In another study, Litchenberg and Pushner (1994) find that director ownership appears to reduce agency conflicts between management and shareholders somewhat. Japanese institution with sizeable equity stakes in firms and their active monitoring of corporate policy may not be motivated solely or primarily by a desire to agency problem of debt. Such behavior may instead be motivated by a desire to reduce agency conflicts between owners and managers and by controlling manager's perquisites by their scope to pursue goals other than profit maximization (Prowse, 1990).

As for agency-debt variable, it was insignificant for the Japanese firms but possessed a correct positive sign, a result which is inconsistent with Dodd's results (see Table-7.16). According to agency theory, firms with shorter maturity debt (a

high ratio of short-term debt) should reduce agency costs of debt, thus allowing for higher levels of debt relative to equity. Therefore, the positive sign of the coefficient of agency-debt variable obtained in our results conform with this theoretical expectation, although it was statistically insignificant. In discussing the capital structure for Japanese firms (Wakasugi, 1987) argues that agency costs should not be the factors controlling debt utilization for firms in Japan.

The typical terms and covenants of Japanese debt seem likely to reduce agency costs more effectively. Most of the debts of Japanese companies are short-term and most of which are supplied by banks. The continual rolling over of short-term debt, for example, is mentioned by Myers (1977) as one means of alleviating the potential underinvestment problem associated with debt. The wide spread use of secured debt should also lower agency costs in Japan by reducing the monitoring costs associated with debt and by reducing the scope for asset substitution. The corporate grouping system in Japan brings certain benefits to the member firms; the groups are not merely clubs of friendly firms but have important economic implications. The corporate groupings and the main bank system are likely to mitigate informational and incentive problems in financial markets. Close bank-firm relations through borrowings, shareholdings and board members exchange, undoubtedly increase informational flows between group banks (main banks) and firms. However, this group behavior is tending to decline in recent years (Chowdhury, 2000).

Japanese financial and industrial structure can reduce the cost of bankruptcy which stem from the inherent difficulty of renegotiating financial claims, when there are many creditors. For Japanese firms, bankruptcy risk variable has been

found to be statistically significant as expected. Financial distress may be costly for at least three reasons i) classical collective action problem among creditors, ii) the informational problem, and iii) the loss of confidence by suppliers and buyers. Such problems are probably less severe for firms with strong relationships to banks. In Japan as substantial debt and equity are held by a few financial institutions, free-rider problems are less prevalent. Although Miwa (1985) fails to find changes in lending behavior of the main banks of financially distressed firms, Suzuki and Wright (1985) find that the likelihood of rescue from bankruptcy is positively related to the equity share of the firm's main bank. Hoshi, Kashyap, and Scharfstein (1990b) also find a positive bank influence, relaxing liquidity constraints by information and informational problems in the capital market in lines of financial distress.

Table-7.13 contains the estimated results for the Bangladeshi firms. According to the table, the coefficient of multiple determination of the Bangladeshi regression (1989-1994) is 0.48 and 1995-2000 is 0.53 respectively. And the overall fit of the regression, the computed F statistic for the period (1989-1994) 4.44 and (1995-2000) 10.007 are statistically significant.

Due to the non-availability of data for agency-equity, we cannot test this variable for Bangladesh. As for the parameter estimates (1989-1994), out of five variables four are found significant. These variables include agency-debt, bankruptcy risk, profitability and operating leverage. Thus, apart from the operating leverage, the other three variables have the expected theoretical signs. The growth rate variable has the expected sign (positive), however, it is not significant. For Bangladesh, profitability and operating leverage were significant,

although operating leverage had the wrong sign, and growth rate variable was not significant as a determinant of capital structure. The overall regression results for the Bangladeshi firms conform to the theoretical expectation.

Table - 7.13
Bangladeshi Firm's Regression Results

Independent Variables	Estimated Coefficient	Standard Error	t Statistic	Estimated Coefficient	Standard Error	t Statistic
	(1989-1994)			(1995-2000)		
Intercept	0.6908	0.0811	8.5178	1.642	0.213	7.714
Agency-Debt	0.1775	0.0993	1.7875**	-0.642	0.268	-2.395*
Bankruptcy Risk	-0.1048	0.0500	-2.096*	-0.280	0.065	-4.298*
Growth Rate	0.0711	0.2367	0.3003	-1.556	0.417	-3.727*
Profitability	-1.7458	0.5082	-3.4352*	-2.788	0.804	-3.470*
Operating Leverage	0.0041	0.0016	2.5625*	-.00277	0.002	-1.649**
	R ² 0.48			R ² 0.53		
	F Statistic 4.44			F Statistic 10.007		

* Significant at the 5 percent level

** Significant at the 10 percent level

The parameter estimates (1995-2000) reveal, out of five variables all are found significant as a determinant of capital structure. These variables include agency-debt, bankruptcy risk, growth rate, profitability and operating leverage. Thus, apart from the agency-debt and growth rate, the other three variables have the expected theoretical signs. The overall regression results for the Bangladeshi firms conform to the theoretical expectation.

However, a survey of ownership of shares of 35 companies out of 58 listed companies, as on 30th June 1985 for the year 1984 and 1985 carried out by Dhaka Stock Exchange, revealed that in 1983 directors / sponsors held 54.69 percent of the total share holding of listed companies which got reduced to 43.51 percent and 36.91 percent in 1984 and 1985. In another study (Alam, 1989) it is reported that when the company is listed on the stock exchange, few shares are available for

trading as majority of them remain held by the original sponsors themselves. The original sponsors often buy additional shares in the market to raise their holdings as high as 70 percent or 80 percent although shares floated in the primary market are on 50:50 basis. Thus, it appears that in Bangladesh sponsors / directors group incline to concentrate ownership and control within themselves. According to the agency theory perspectives this may conform to the characteristics of closely-held firms, which should be subjected to lower agency-equity costs (Fama and Jensen, 1983).

Table-7.14
Analysis of Sum of Squares of the
Pooled Data Regression Model

<u>1989-1994)</u>				<u>(1995-2000)</u>			
<u>Source</u>	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>	<u>Sources</u>	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Model	5	0.4410	0.0882	Model	5	6.224	1.2450
Error	74	1.5830	0.0213	Error	144	11.600	0.0805
Total	79	2.0240		Total	149	17.824	
Sum of Squares Error (Japanese Firms) = 0.3930				Sum of Squares Error (Japanese Firms) = 1.658			
Sum of Squares of Error (Bangladeshi Firms) = 0.8310				Sum of Squares of Error (Bangladeshi Firms) = 7.021			
Sum of Squared Errors (Japanese plus Bangladeshi) = 1.2240				Sum of Squared Errors (Japanese plus Bangladeshi) = 8.6750			
Sum of Squared (Pooled Data) = 1.5830				Sum of Squared (Pooled Data) = 11.6000			
F Value	4.1290*			F Value	15.454*		
Prob > F	0.0020			Prob > F	0.0010		

*Significant F Ratio at the 0.05 level

As for agency-debt variable for Bangladeshi firms, it is statistically significant for both the periods under study possessing the correct sign for the period (1989-

1994). This result conform to the theoretical argument that firms with shorter maturity debt (a high ratio of short-term debt) should reduce agency costs of debt, thus allowing for higher level of debt relative to equity. In this study bankruptcy risk variable is found statistically significant for Bangladeshi firms for both (1989-1994) and (1995-2000) having the expected theoretical sign.

Japanese and Bangladeshi regressions are compared to obtain information to identify the source of differences between them. The Chow test is conducted to statistically compare the Japanese and Bangladeshi regression equations. The result of Chow test is given in Table-7.14. It is revealed from Table-7.14 that the F value for the period 1989-1994 is 4.1060 and for 1995-2000 is 9.44 and is significant at the 5 percent level. Thus, the two regression equations (Japan and Bangladesh) are statistically different.

The focus of this study is the source of the difference in the two regressions. Agency-debt and bankruptcy risk proxies' regression coefficients are tested for statistical differences for the periods 1989-1994 and 1995-2000 between Japanese and Bangladeshi firms. The t test results for these variables are shown in Table-7.15. The null hypothesis for agency-debt variable is that the cross sectional relationship to debt ratios for Japanese firms is equal to or more positive for Bangladeshi firms and the alternative hypothesis is that the relationship is less positive than the relationship for Bangladeshi firms. The expected result is that the relationship to debt ratios is less positive for Japanese firms than that of Bangladeshi firms. The result of the statistical test reveals that the t value for the agency-debt test is significant at the 5 percent level for both the periods. Thus, the null hypothesis is rejected. This rejection conforms to priori expectations.

Table-7.15
Parameter Tests

(1989-1994)		(1995-2000)	
<u>Agency-Debt Variable</u>	<u>Parameter Estimate</u>	<u>Agency-Debt Variable</u>	<u>Parameter Estimate</u>
Japanese Firms	0.1780	Japanese Firms	0.0429
Bangladeshi Firms	0.1290	Bangladeshi Firms	0.6420
t value	57.19*	t value	18.63*
Prob > t	0.0001*	Prob > t	0.0001*
<u>Bankruptcy Risk Variable</u>			
Japanese Firms	-0.1050	Japanese Firms	-0.4630
Bangladeshi Firms	-0.2100	Bangladeshi Firms	-0.2800
t value	0.2316	t value	1.989*
Prob > t	0.2710	Prob > t	0.002

* Significant at the 0.5 level

The null hypothesis for the bankruptcy risk variable is that the cross-sectional relationship to debt ratios for Japanese firms is equal to or more negative than for Bangladeshi firms. The alternative hypothesis is that the relationship of bankruptcy risk to debt ratios for Japanese firms is less negative than that for Bangladeshi firms. The expected result is that the relationship of bankruptcy risk and debt ratios in Japanese firms is less negative than that for Bangladeshi firms. The result of the statistical test shows that the t value for the bankruptcy risk is not significant for the period 1989-1994. Thus, the null hypothesis for the bankruptcy risk is not rejected. However, for the period 1995-2000 the result of the statistical test shows that the t value for the bankruptcy risk is significant. Thus, the null hypothesis is rejected. This rejection conforms to priori expectations. However, due to non-availability of agency-equity data for Bangladeshi firm, cross-sectional relationship for this variable could not be tested. Thus, this is one of the limitations of this study.

Comparing our results with previous studies, Table-7.16 gives a summary of our estimated results (columns 5, 6, 7 and 8) compared to Dodd's (1986) results regarding the signs and significances of the variables included in the study. As the Table shows our regression results, particularly for Bangladesh, it appears to be more or less consistent with the US sample.

Dodd's (1986) regression results for Japan show that the agency-debt and bankruptcy risk variables are significant but not so in the case of agency-equity variable. However, his study reveals that agency-equity, agency-debt and bankruptcy risk variables have signs (positive, negative, positive respectively) that do not agree with those postulated in agency theory literature. However, his empirical results for the US enterprises seem to conform the expectations, where aside from the insignificance of the bankruptcy risk variable, all theoretical relationships are supported (Dodd, 1986).

In this study bankruptcy risk variable is found statistically significant for both Japanese and Bangladeshi firms for both the periods i.e., 1989-1994 and 1995-2000 and it has the expected theoretical sign. Agency-equity variable is significant for Japan for the period 1995-2000 possessing the correct theoretical sign. For Bangladesh agency-debt variable was significant for both the periods having wrong sign for the period 1995-2000. However, Dodd (1986) finds the bankruptcy risk variable for the Japanese firm statistically significant but with the wrong sign (see Table-7.16, column-4). As noted previously, firms with high variation in EBIT (i.e., high bankruptcy risk) should have relatively lower debt ratios. Thus, our results conform to the theoretical expectations. Although an important financial benefit arising from Japanese corporate ownership and banking relationships has

reduced costs of bankruptcy, corporate bankruptcies exist in Japan. A report reveals that corporate bankruptcies totaled 14,041 cases in Japan in 1993, topping 14,000 for the second straight year. Although, in 1993 the number represents a year-on-year decline of 0.9 percent, but combined debts, at 6.74 trillion, were third largest on record (The Japan Times, January 19, 1994).

Table – 7.16
Comparison of Regression Results of Japan, the USA and Bangladesh

Variables	Expected Sign	Dodd (1986)		Present Study			
		US	Japan	Japan (1989-1994)	Bangladesh (1995-2000)	Japan (1995-2000)	Bangladesh (1995-2000)
AE	-	-0.1315**	<u>0.0990</u>	<u>0.0039</u>	NA	-0.211**	NA
AD	+	0.1168*	<u>-0.1067**</u>	0.1296	0.1775**	<u>-0.024</u>	<u>-0.642*</u>
BR	-	-0.0093	<u>0.0503*</u>	-0.2092**	-0.1048*	-0.463*	-0.280*
GR	+	0.4554*	<u>-0.3030**</u>	<u>-0.2102</u>	0.0711	0.272*	<u>-1.556*</u>
PR	-	-1.0215*	-3.7923*	-3.0531*	-1.7458*	-2.644*	-2.788*
OL	-	-0.0005**	<u>0.0004*</u>	<u>-0.0024**</u>	<u>0.0041*</u>	<u>0.0017</u>	<u>-0.002**</u>
R ²		0.40	0.66	0.32	0.48	0.34	0.53
F Statistic		11.14	32.55	3.33	4.44	7.993	10.007

* For significance at 5% level

** For significance at 10% level

The (-) Underline sign denotes the wrong sign

The empirical study provides insights into the agency costs' relationships with capital structure. Based on a model applied by Dodd (1986), capital structure is determined mainly by three agency costs variables (agency-equity, agency-debt and bankruptcy risk) and other potential determinants such as growth rate, profitability and operating leverage.

Regression analysis was conducted using cross-section data for Japanese and Bangladeshi firms. Accordingly, the results provide empirical support for the theoretical agency relationships in determining capital structure in particular for Bangladeshi firms. According to the statistical results, both agency-equity and

agency-debt variables were not significant determinants of capital structure in Japanese firms for the period 1989-1994. But both agency-equity and bankruptcy risk variable were significant determinants of capital structure for the period 1995-2000. While the bankruptcy risk variable was an important determinant which has an inverse relationship with capital structure, any increase in bankruptcy risk may lead to the reduction of debt ratio. In case of Bangladesh, agency-debt and bankruptcy risk variables were found very important determinants of capital structure for both the periods under study. Unfortunately, data were not available for testing the role of agency-equity costs in determining capital structure in Bangladeshi firms.

The differences in findings between Japan and Bangladesh may be explained as follows:

Corporate Governance: Agency costs can be minimized within the firm by internal monitoring and control devices and externally through corporate governance structure as the separation of management and control. Mutual monitoring among various managers may reduce agency problems and act as corporate governance system. Japan and Bangladesh show different corporate governance structure due to their differences in the market structure, institutional and regulatory environment and the state of development. The Anglo-American type of governance system is practiced in Bangladesh characterized by shareholders' interest through market corporate control, board of directors and direct intervention by large stockholder. On the contrary, the Japanese-German type of corporate governance featured by the large block of stable shareholding by financial institutions, the prevalence of interlocking of shareholding and unique

pattern of industrial organization are the cornerstones of effective corporate governance system. Moreover, in Japan, stable shareholdings and share interlocks minimize agency conflicts among different parties. Corporate grouping and main bank system mitigate incentive and information problems in the financial markets. Close bank-firm relations through borrowings, shareholdings and board members' exchange undoubtedly increase information flows between groups and member firms. Shareholding and supply of board members by group banks facilitate bank's monitoring of member firms, thereby, reducing incentive problems of the participants. As the bank holds both debt and equity of the firms other incentive problems between shareholder and debtholders are likely to be mitigated. It can also prevent management's manipulation of earnings by curbing discretionary accruals. The role of main bank does not end with interim monitoring; indeed, they monitor ex-post and intervene in the management of firms in order to help the firms when they cannot meet contractual obligations. Banks act as rescuers of financial distressed firms. Main bank can make a liquidation or rescue decision and may take control rather smoothly without resorting to time-consuming bankruptcy proceedings. Apart from possible legal cost, the ability to reorganize with minimum disruption to customer, supplier and employee relation is quite valuable.

On the other hand, in Bangladesh, bank-firm relationship is not so intimate as in Japan. Due to the regulatory arrangements unlike Japan, Bangladeshi financial institutions are not allowed to participate in stock investment i.e., holding of debt and equity. Banks and financial institutions in Bangladesh do not monitor the loan or investment. Moreover, they do not provide any support to the concerned firms unlike Japan where support is provided and which is a common characteristic

feature of Japanese corporate governance. Unlike Bangladesh corporate law, Japanese commercial code contains provision for a meeting of the bondholders' which is one of the important mechanisms of corporate governance in Japan. Another cogent explanation links investors monitoring to the operation of internal labor markets in Japan. Workers can expect to be employed with one firm for a much longer period than in case of Bangladesh. Corporation is the second home for corporate Japanese employees. This is a dominant view of managers and management in Japan, but seems to be unpopular in Bangladesh. Thus, it is observed that Japanese system of corporate governance is successful in mitigating conflicts between the interested parties within and outside the corporation compared to Bangladesh.

Institutional Environment: There exist significant differences in the regulatory and institutional environment of Japan and Bangladesh. Japan is still more highly bank based financed than Bangladesh. A relatively large section of banking sector has influenced the Japanese corporate structure with shared authority at the top, large financial intermediaries that hold concentrated blocks of stock, interaction of bankers and managers in structured settings and multiple intermediaries that split the vote. On the contrary, there is a lack of developed financial institutions in Bangladesh e.g., they do not have finance company, merchant banks (although initiated recently), and trust banks. In Japan, bulk of the long-term finance is provided by trust banks. The manifestation of a non-performing regulatory framework is nowhere so evident in the financial sector of Bangladesh. The reasons rest on the fact that Bangladesh went for financial liberalization without providing adequate regulation and supervision for the financial institutions.

Because of the inefficient and corrupt ridden banking system, there was an apprehension that a large part of the credit flow would turn into bad loans. World Bank estimated that about 37 percent of the loan of the then six nationalized commercial banks' annually passed due dates of payments. The wide spread culture of loan default has led to a rise in high costs of financial intermediation by financial institutions reflected by the large spread between the deposit and lending rates. Moreover, there exist regulatory loopholes and weaknesses in the regulatory framework regarding methods of stock trading, protection of shareholders and the like. The increasing cost of financial intermediation, non repayment of bank and other financial institutions' loans also create severe problems for recycling loanable funds for financing new investments, and effectiveness of loan utilization is reduced by low equity participation and by diversion of funds for non-investment purposes. These factors adversely affect the financial sector and its environment for operation which resulted in a low level of key operations by these institutions over the recent years. On the other hand, the financial institutions in Japan are able to screen, monitor and intervene in the management of the firms through their unique aspect of capital market structure with the existence of the main bank. Under the institutional arrangements in Japan the large firm in a financial corporate group is able to avert sudden bankruptcy or take over bid because of the back up received from its main bank or other business partners. Ownership structure of Japanese and Bangladeshi firms show significant differences. In particular, heavier weight of financial institutions in corporate ownership is a common characteristic feature of Japanese firms. On the contrary, in Bangladesh largest number of shares are in the group of general public.

Institutional participation is not present there like Japan. As ownership concentration is likely to be inversely proportional to the number of shareholders, diffusely-held corporations are poorly monitored, and to the extent that managers maximize objectives other than profit maximization, their profits would, *ceteris paribus*, tend to be lower than profits to similar corporations with a more concentrated ownership structure. The distributions of stockholding in Bangladesh are skewed in the direction of wealth families. Unlike Japan, in Bangladesh banks and firms are not inter-dependent, where industries rely heavily on banks as a stable source of finance, in turn, banks depend on firms as stable sources of loan demand. Moreover, Japan has a unique corporate system with institutional and regulatory system that attracts widespread attention throughout the world. Bangladesh, like other developing countries has limited role in this regard that distinguishes it from the Japanese system.

Dividend: The empirical analysis of the dividend behavior of Japanese and Bangladeshi firms from agency model of dividends has identified some basic differences. It is observed that dividend policy vary across legal regimes in ways consistent with the outcome agency models of dividends and depends on shareholder protection. Generally, firms in common law countries where investor protection is relatively better make higher dividend payment compared to firms in civil law countries. Moreover, common law countries with high growth firms pursue lower dividend payouts compared to low growth firms. In general, investors' protection reflects the degree of capital market development, agency relationships and corporate governance structure of a country. It is argued that Japanese firms can ignore market demand for dividend suggested by market

imperfection. Japanese firms can have financial assistance from banks and financial institutions as and when required. Japanese firms are growth biased. High profit retention, low dividends and aggressive use of debt are the mechanics used by Japanese enterprises. In case of mutual shareholdings, the payment of dividends to each other is of less importance. Besides, the corporation has the enterprises group surrounding main bank supporting from the back. So, the corporation is able to raise funds and overcome higher market demand for dividend. The institutional arrangement reduces the incentive and informational asymmetry among different parties that acts as governance mechanism for reducing agency costs in respect of dividend. On the contrary, in Bangladesh, banks and financial institutions do not provide any sort of assistance to the firm they lend to. They are only concerned with the recovery of their invested money. Banks and firms are viewed as separate entities. So, there exists incentive and informational problems among the suppliers of funds. In this context, Bangladeshi firms follow high payout ratio to satisfy investors' demand. A difference in taxation and tax liability is also one of the major reasons why dividend payout ratios are higher in Bangladesh than in Japan. Moreover, the relationship between ownership concentration and dividend payout ratios in Japan are rationalized within a framework focusing shareholder monitoring of management.

Capital Structure and Cost of Capital: The capital structure measures of Japanese and Bangladeshi firms show that these two countries have different approaches to the employment of debt, use of net assets etc. There appears to be substantial differences in the borrowing practices between the two countries. In many cases Japanese corporation's debt/equity ratio is extraordinarily high for

some corporations compared to Bangladesh. One of the reasons for this phenomena rest on the fact that in Japan banks are able to use their positions as both lender and shareholder to induce greater corporate borrowing than would be possible for Bangladesh. Japanese firms operating in a developed capital market with unique financial system and institutional arrangements can deploy more debt. Close monitoring and constant support from financial institutions help the Japanese firms to borrow more. An insight into the profitability of Japanese and Bangladeshi firms reveal that Bangladeshi firms show more profitability at four levels of income statement: after-tax profit margin, pre-tax profit margin, operating profit margin and operating cash flow margin. However, weighted average cost of capital of Bangladeshi firms is higher than that of Japan. In Bangladesh the weighted average cost of capital is almost 1.68 times more than that of Japan. Thus, Japanese firms are in advantageous position having lower cost of capital over Bangladeshi firms. These findings are supported by the previous studies, which dealt with Japanese and the US cases and observed that profitability of the US firms are higher than that of the US firms, moreover, Japanese firms show low cost of capital compared to the USA. The differences in the institutional environment, borrowing practices, monitoring, share interlocking, low level of bankruptcy risk and reduced cost of funds help Japanese firms to maintain high debt/equity ratio compared to Bangladeshi firms.

This empirical study is focused on the cross-sectional differences in debt ratios between firms in Japan and Bangladesh based on agency cost model of capital structure. Previous attempts to outline differences in Japanese and the U.S. capital structure have cited institutional differences as the major contributor to debt ratio

variation. The empirical results of this study are consistent with the fact that due to the institutional differences between Japan and Bangladesh agency structures should also be different. Moreover, Japanese financial institutions motivated by a desire to lessen one or both of the agency conflicts between shareholders and manager and shareholders and debtholders, actively monitor the firm in which they invest; and thereby contribute towards mitigating the agency conflicts more effectively compared to Bangladesh.

The application of the agency cost models has been used for developed countries only. This study marks for the first time that this analytical framework can be applied in a developing economy like Bangladesh too. However, future study of agency relationships may be extended by testing the effects of the relationships between shareholders, debtholders and managers on other financial decisions of the firm and in other institutional environments.

Chapter 8

Summary and Conclusion

A crucial question facing companies in need of new finance is whether to raise debt or to raise equity. In spite of various developments in finance theory the determination of capital structure has been a subject of theoretical debate since the publication of Modigliani-Miller's (1958) article developed within the framework of perfect capital market. They showed that, in a capital market free of taxes, transaction costs, and other frictions, the choice of firm's capital structure could not affect its market value – because investors could make or unmake any level of home made leverage they desired by borrowing or lending on personal account. Much of the history of capital structure theory during the past four decades has involved examining how robust the model is to more realistic assumptions regarding market frictions and information sets available to managers and shareholders. The development of agency theory in the 1980s, coupled with detailed research into the extent and effect of bankruptcy costs during the 1980s, led to a detailed view of the usefulness of the basic Modigliani and Miller' capital structure theory. Several authors including Jensen and Meckling (1976), Myers (1977) and Barnea et al. (1981) have focused on the role of agency costs in determining capital structures. However, there is relatively little empirical evidence on the relationship of agency costs and capital structures. Few empirical studies of agency theory and capital structure have been done on the international sector. Thus, the study of agency theory on the international sector is of paramount importance.

Over the past years, ranges of capital structure theories have appeared in finance literature. These theories regarded optimal capital structure for a firm to be determined by a broad range of factors including a mix of tax effects, bankruptcy costs, asymmetric information, and various agency problems associated with different securities including costs created by adverse selection. Theoretical developments in capital structure can be categorized broadly into two groups: i) frictionless market theories, which assume that individuals and firms can buy and sell securities without incurring transaction costs and ii) costly transaction theories. The first group consists of the original capital structure theories of Modigliani and Miller (1958, 1963), Miller (1977), and DeAngelo and Masulis (1980). The second group includes a range of theories that captures the various effects of costly capital market transactions. It includes the pure transaction costs or 'Pecking Order Theory' accredited to Donaldson (1961); the debt capacity theories that depend on bankruptcy to limit a firm's use of debt financing (Robichek and Myers, 1966; and Kim, 1978); the agency models developed by Jensen and Meckling (1976), Myers (1977), Smith and Warner (1979); and signaling model by Ross (1977).

The frictionless market theories of capital structure have been discussed. In particular, we combined the original Modigliani and Miller' (1958, 1963) paper and equilibrium model of Miller's (1977) paper that included the legal restrictions on a firm's ability to take full advantage of its tax advantage. We reviewed the various capital structure theories involving costly transactions. One of the first types of transaction costs considered in this set of theories was that of firm failure or bankruptcy. A number of theorists have appended the notion of bankruptcy costs to the Modigliani and Miller' (1963) tax corrected valuation model, thereby

limiting a firm's ability to use debt financing to enhance shareholders' wealth. Moreover, we observed that in a world of costly information, managers can take decision that may be inconsistent with shareholders' wealth maximization and, hence, introduce an agency cost explanation of the firm's capital structure choices. The seminal work of Jensen and Meckling (1976) introduced agency cost considerations and this theory continues to grow and is a prominent area in capital structure research.

Capital structure theory is closely related to the firm's cost of capital. There is controversy whether there exists some optimal composition of debt-equity mix at which the value of the firm can be maximized. Many debates over whether an optimal capital structure exists are found in financial literature. It is observed that the cost of capital is an elusive and difficult quantity to measure, and its estimation is still a matter of controversy. One of the real difficulties in dealing with the cost of capital lies in the fact that there is as yet no fully satisfactory theoretical model for predicting the impact of changes in the firm's capital structure on cost of capital. Much of the controversy has centered on the suggestion that the firm's cost of capital is independent of capital structure in contradiction to the traditional view that the cost of capital decreases as the proportion of debt in total capitalization increases. The weight of opinion is that the cost of capital is related to the relative proportion of debt and equity in the firm's overall capital structure but the cost is relatively insensitive to increase in the proportion of debt over a fairly wide range. It is necessary to determine optimal capital structure by sensitivity analysis of debt-equity ratio and adjustment of short-term and long-term funds.

The capital structure measures of Japanese and Bangladeshi firms show that these two countries have different approaches to the employment of debt and the use of net assets. There are considerable differences in the borrowing practices between the two countries. In many cases Japanese corporation's debt/equity ratio is extraordinarily high for some corporations compared to Bangladesh. One of the reasons for this phenomenon rests on the fact that in Japan banks are able to use their positions as both lender and shareholder to induce greater corporate borrowing than would be possible for Bangladesh. Japanese firms operating in a developed capital market with unique financial system and institutional arrangements can deploy more debt. Close monitoring and constant support from financial institutions help the Japanese firms to borrow more. An insight into the profitability of Japanese and Bangladeshi firms reveal that Bangladeshi firms have more profitability at four levels of income statement: after-tax profit margin, pre-tax profit margin, operating profit margin and operating cash flow margin. However, weighted average cost of capital of Bangladeshi firms is higher than that of Japan. In Bangladesh the weighted average cost of capital is almost 1.68 times more than that of Japan. Thus, Japanese firms are in an advantageous position having lower cost of capital over Bangladeshi firms. The differences in the institutional environment, borrowing practices, monitoring, share interlocking, low level of bankruptcy risk and reduced cost of funds help Japanese firms to maintain high debt/equity ratio compared to Bangladeshi firms.

It is observed that modern finance theory has not yet developed a general theoretical model of share price equilibrium, assuming efficient, perfect and complete markets that accommodate the existence of dividends and optimal capital

structure. The theoretical relationship between clientele, valuation, information, tax effect and agency cost effects remains unclear although a large number of literatures are available that try to explain dividend behavior but without a satisfactory understanding. Besides, there are no complete satisfactory theoretical models of dividend that drive dividend policies as part of some broad optimal contract between investors and corporate insiders, which allow for a range of possible financing instruments. Moreover, the existing agency models do not fully deal with the issues of choice between debt and equity in addressing agency problems and the relationship between dividend and new share issues. Mixed theoretical and empirical evidences as discussed from different perspectives have exacerbated the dividend and capital structure puzzle.

The focus on the dividend behavior of Japanese and Bangladeshi firms revealed that dividend yield and payout ratios for the Bangladeshi firms are higher than the Japanese firms. Differences also exist in the taxation of dividend income and capital gains between these two countries. The empirical analysis of the dividend behavior of Japanese and Bangladeshi firms from agency model of dividends has identified some basic differences. It is observed that dividend policy vary across legal regimes in ways consistent with the outcome agency models of dividends and depends on shareholder protection. Generally, firms in common law countries where investor protection is relatively better make higher dividend payment compared to firms in civil law countries. In addition, common law countries with high growth firms pursue lower dividend payouts compared to low growth firms. Generally, investors' protection reflects the degree of capital market development, agency relationships and corporate governance structure of a country. It is argued

that Japanese firms can ignore market demand for dividend suggested by market imperfection. Japanese firms can have financial assistance from banks and financial institutions as and when required. Japanese firms are growth biased. High profit retention, low dividends and aggressive use of debt are the mechanics used by Japanese enterprises. In case of mutual shareholdings, the payment of dividends to each other is of less importance. Besides, the corporation has the enterprises group surrounding main bank supporting from the back. So, the corporation is able to raise funds and overcome higher market demand for dividend. The institutional arrangement reduces the incentive and informational asymmetry among different parties that acts as governance mechanism for reducing agency costs in respect of dividend. On the contrary, in Bangladesh, banks and financial institutions do not provide any sort of assistance to the firm they lend to. They are only concerned with the recovery of their invested money. Banks and firms are viewed as separate entities. So, there exist incentive and informational problems among the suppliers of funds. In this context, Bangladeshi firms follow high payout ratio to satisfy investors' demand. These differences are due to the unique financial system of Japan, differences in ownership structure, taxation of dividend income, availability of information and the role of main bank. Moreover, the crossholding of stocks, active institutional participation in the debt and equity market also help Japanese firms to avoid market demand for dividends. On the contrary, Bangladeshi firms with infant capital market and restrictions on institutional investment cannot avoid the market demand for dividend suggested by market imperfections. In Bangladesh managers are concerned about their dividend policy. This concern is augmented by the role of regulatory arrangement, which act as a protector of minority

shareholders. Shareholders exert a great deal of influence on dividend policy. The evidence presented provides insight into the dividend policy of firms in Japan and Bangladesh with different level of minority shareholder rights under different legal regimes but it also illustrates the complexity of this issue and leaves some questions unanswered.

Current work in capital structure has expanded into a lucid analytical structure building upon the major contributions starting with the development of agency and bankruptcy theory. Analysis of the nature of the firm has broadened in studies that have included agency and information problems. Characterizing the firm not as an atom of analysis but as a set of contracts among suppliers of capital and the factors of production, researchers have identified several sources of agency costs and have shown the relationship of portfolio diversification to the separation of ownership and control. They have also identified signaling mechanisms by which costly information of uncertain validity may be effectively distributed and certified. Moreover, an understanding of how agency considerations arise and how they affect the prices of financial securities can improve the appreciation of various business transactions and provide insights to the firm for reducing their undesirable effects. More important, a good understanding of the agency relationships implicit in contracts can be used to design procedures that can lower these agency costs and, thereby, benefit all participants in the business organization. In addition, agency theory can help in understanding better why the different organizational forms of business exist, and which can help in designing of contracts best suited for specific business transactions. The agency framework concentrates on the costs of certain relationships between firm related groups. The costs of the relationship

between managers and stockholders (i.e., agency-equity costs) tend to discourage the issuance of equity. The costs of the relationship between debtholders and stockholders (i.e., agency-debt costs) tend to discourage the use of debt. Theoretically, the firms' optimal capital structure results from balancing these agency costs.

Finance theorists have long realized that sufficiently large costs of bankruptcy and financial distress could dramatically reduce the incentive for firms to use debt financing, even in a world of otherwise perfect capital markets. Moreover, in real world of finance, it reveals that overly indebted firms can be severely penalized if they cease to service their debts. Existing literature suggests that a bankrupt company's securityholders and protected bondholders, frequently lose their entire investment in a firm. If bankruptcy costs are material, the tax advantage may become offset at some level of debt. Then, a higher risk of bankruptcy should reduce the attractiveness of debt, and optimal capital structure with a high bankruptcy rate should contain low amounts of debt. Agency literature suggests that potential bankruptcy costs are part of the agency-debt costs.

The mechanisms that exist for intervening in the top management of corporations, and their effectiveness, constitute an important aspect of any system of corporate governance. The much studied principal-agent conflict between financiers and managers is probably most acute when optimal action required of a top management team is to sack itself. Normally, managers may be reluctant to do this. It is now realized in theory and practice that a variety of intervention mechanism exist. Generally, corporate governance deals with the ways in which

suppliers of finance assure themselves of getting a return on their investment and in particular the separation of management and finance.

Agency costs can be reduced within the firm by internal monitoring and control devices and externally through corporate governance structure as the separation of management and control. Mutual monitoring among various managers may reduce agency problems and act as corporate governance system. Japan and Bangladesh show different corporate governance structure due to their differences in the market structure, institutional and regulatory environment and the state of development. The Anglo-American type of governance system is practiced in Bangladesh characterized by shareholders' interest through market corporate control, board of directors and direct intervention by large stockholder. On the contrary, the Japanese-German type of corporate governance featured by the large block of stable shareholding by financial institutions, the prevalence of interlocking of shareholding and unique pattern of industrial organization are the cornerstones of effective corporate governance system. Moreover, in Japan, stable shareholdings and share interlocks minimize agency conflicts among different parties. Corporate grouping and main bank system mitigate incentive and information problems in the financial markets. Close bank-firm relations through borrowings, shareholdings and board members' exchange undoubtedly increase information flows between groups and member firms. Shareholding and supply of board members by group banks facilitate bank's monitoring of member firms, thereby, reducing incentive problems of the participants. As the bank holds both debt and equity of the firms other incentive problems between shareholder and debtholders are likely to be lessened. It can also prevent management's

manipulation of earnings by curbing discretionary accruals. The role of main bank does not end with interim monitoring; indeed, they monitor ex-post and intervene in the management of firms in order to help the firms when they cannot meet contractual obligations. Banks act as rescuers of financial distressed firms. Main bank can make a liquidation or rescue decision and may take control rather smoothly without resorting to time-consuming bankruptcy proceedings. Apart from possible legal cost, the ability to reorganize with minimum disruption to customer, supplier and employee relation is quite valuable.

Corporate governance system in Japan is called 'insider' system where equity ownership is concentrated in banks, wealthy families and other customers. Cross-shareholdings between firms are very common. In insider systems, shareholders are able to monitor a company not only by watching the share price, but also by observing closely how the company performs in its key business relationships. The make-up of board of directors in insider system tends to monitor the make-up of long-term shareholder relationships. One of the benefits of insider systems such as Japanese *keiretsu* is that "industrial group members may be more inclined to invest in specialized, efficient, customer-specific assets, and less inclined to undertake mergers and acquisitions as a means of reducing the moral hazards of such investment" (Kester, 1991). In Japan, most of the stock of typical large companies are controlled by *keiretsu* members and the firm's other trading partners. Employees also have a central role in the governance of the firms, although it is a cultural phenomenon than the result of formal legal arrangements. Japanese corporations are run in the interest of the employees. The widely used practices in Japan of life time employment, bonus plan, selection of executives from within the

ranks of employees, and the low ratio of executive pay to average employee pay tend to support a culture that emphasizes the interest of the employees and works as an effective corporate governance system.

On the other hand, bank-firm relationship in Bangladesh is not so intimate as in Japan. Unlike Japan, Bangladeshi financial institutions are not allowed to participate in stock investment due to the regulatory arrangements i.e., holding of debt and equity. Banks and financial institutions in Bangladesh do not monitor the loan or investment. Moreover, they do not provide any support to the concerned firms as in Japan. Unlike Bangladesh corporate law, Japanese commercial code contains provision for a meeting of the bondholders' which is one of the important mechanisms of corporate governance in Japan. Another cogent explanation links investors monitoring to the operation of internal labor markets in Japan. Workers can expect to be employed with one firm for a much longer period than in case of Bangladesh. Corporation is the second home for corporate Japanese employees. This is a dominant view of managers and management in Japan, but seems to be unpopular in Bangladesh.

In Bangladesh, the ultimate control of corporate governance rests on the directors. The Securities and Exchange Commission prescribes different rules and regulations as a watchdog of the corporations. Here, in the stock market based system individual investors have no incentive to gather the costly information needed to supervise and discipline managers in management controlled large corporations; the banks have both the incentive and capacity to subject corporate managers to much stringent supervision. Furthermore, in market-based system cross-shareholdings are rare, and equity ownership is dispersed among a large

number of individual and institutional investors. The Japanese bank-based system demonstrates better dealing with the problems of agency, asymmetric information and transaction cost than in market-based system of Bangladesh. The Japanese experience of corporate and industrial structure is neither a totally applicable nor an utterly irrelevant case for a developing economy like Bangladesh. However, the Japanese experience being an Asian country is more likely to be instructive in many respects than any Western nation.

Significant differences exist in the regulatory and institutional environment of Japan and Bangladesh. Japan is still more highly bank based financed than Bangladesh. A relatively large section of banking sector has influenced the Japanese corporate structure with shared authority at the top, large financial intermediaries that hold concentrated blocks of stock, interaction of bankers and managers in structured settings and multiple intermediaries that split the vote. On the contrary, there is a lack of developed financial institutions in Bangladesh e.g., they do not have finance company, merchant banks (although initiated recently), and trust banks. In Japan, bulk of the long-term finance is provided by trust banks. The manifestation of a non-performing regulatory framework is nowhere so evident in the financial sector of Bangladesh. The reasons rest on the fact that Bangladesh went for financial liberalization without providing adequate regulation and supervision for the financial institutions. Because of the inefficient and corrupt ridden banking system, there was an apprehension that a large part of the credit flow would turn into bad loans. The wide spread culture of loan default has led to a rise in high costs of financial intermediation by financial institutions reflected by the large spread between the deposit and lending rates. Moreover, there exist

regulatory loopholes and weaknesses in the regulatory framework regarding methods of stock trading, protection of shareholders and the like. The increasing cost of financial intermediation, non repayment of bank and other financial institutions' loans also create severe problems for recycling loanable funds for financing new investments, and effectiveness of loan utilization is reduced by low equity participation and by diversion of funds for non-investment purposes. These factors adversely affect the financial sector and its environment for operation, which resulted in a low level of key operations by these institutions over the recent years. On the other hand, the financial institutions in Japan are able to screen, monitor and intervene in the management of the firms through their unique aspect of capital market structure with the existence of the main bank. Under the institutional arrangements in Japan the large firm in a financial corporate group is able to avert sudden bankruptcy or take over bid because of the back up received from its main bank or other business partners. Ownership structure of Japanese and Bangladeshi firms show significant differences. In particular, heavier weight of financial institutions in corporate ownership is a common characteristic feature of Japanese firms. On the contrary, in Bangladesh largest number of shares are in the group of general public. Institutional participation is not present there like Japan. As ownership concentration is likely to be inversely proportional to the number of shareholders, diffusely-held corporations are poorly monitored, and to the extent that managers maximize objectives other than profit maximization, their profits would, *ceteris paribus*, tend to be lower than profits to similar corporations with a more concentrated ownership structure. Unlike Japan, in Bangladesh banks and firms are not inter-dependent, where industries rely heavily on banks as a stable

source of finance; in turn, banks depend on firms as stable sources of loan demand. Moreover, Japan has a unique corporate system with institutional and regulatory system that attracts widespread attention throughout the world. Bangladesh, like other developing countries has limited role in this regard that distinguishes it from the Japanese system. It can be argued that institutional environments and financial institutions and their linkage with firms are widely believed to play an increasingly important role in corporate governance and in mitigating agency conflicts and costs in Japan compared to Bangladesh.

We have shown a comparative position of capital structure determinants and accounting information including certain comparability limitations between Japanese and Bangladeshi data. The theoretical model discussed in this study is based on a model developed by Dodd (1986). According to this model the firms' capital structure should result from balancing the costs of certain relationships between firm related groups. Three agency cost variables have been recognized as the main determinants of capital structure. These variables include agency-equity, agency-debt and bankruptcy risk. Three other potential determinants of capital structure are also included in the model. These variables are a firm's specific characteristic features of growth rate, profitability and operating leverage. The null hypothesis for agency-debt variable is that the cross sectional relationship to debt ratios for Japanese firms is equal to or more positive than Bangladeshi firms. The alternative hypothesis is that the relationship is less positive for Bangladeshi firms. The expected result is that the relationship is less positive for Japanese firms than that of Bangladeshi firms. The null hypothesis for the bankruptcy risk variable is that the cross-sectional relationship to debt ratios for Japanese firms is equal to or

more negative than that of Bangladeshi firms. The alternative hypothesis is that the relationship to debt ratios for Japanese firms is less negative than Bangladeshi firms. The expected result is that the relationship of bankruptcy risk and debt ratios in Japanese firms is less negative than Bangladeshi firms. However, due to non-availability of agency-equity data for Bangladeshi firms' cross-sectional relationship for this variable could not be tested. Thus, this is one of the limitations of this study. Financial cross-section data are used for the period 1989-1994 and 1995-2000 of which data were available for both Japanese and Bangladeshi firms. Multiple regression analysis, using the least square estimating method, is used separately for Japanese and Bangladeshi firms.

A comparison of accounting data between Japan and Bangladesh has been conducted. The major differences in accounting principles and reporting practices between the two countries are found mainly in the computation of depreciation allowances and in surplus entries, while revaluation of assets in response to inflation is similar in the two countries.

As for the parameter estimates of Japanese firms (1989-1994), out of six variables three are found significant and have the correct signs. These variables include bankruptcy risk, profitability and operating leverage. Among the other insignificant variables, (agency-equity, agency-debt and growth rate) only agency-debt has the expected theoretical sign. For the other three determinants of capital structure (debt ratio), for Japan two variables (profitability and operating leverage) are found significant with the expected theoretical signs, while the growth rate variable is not significant and has the wrong sign.

On the other hand, for the periods (1995-2000) the parameter estimates shows, out of six variables four are significant and have the correct signs. These variables include agency equity, bankruptcy risk, growth rate and profitability. Agency–debt variable was insignificant possessing the wrong sign. The other three determinants of capital structure (debt ratio), for Japan two variables (growth rate and profitability) are found significant with the expected theoretical signs, while the operating leverage was insignificant possessing the theoretically expected sign.

According to our regression results (1989-1994), the two agency cost variables (agency-equity and agency-debt) are not statistically significant for Japanese firms. It is also found that the agency-equity relationship for the Japanese firms was not significant and was seen to have the wrong sign. However, for the period 1995-2000 one agency cost variable i.e., agency-debt variable was not significant and had the wrong sign. This result was expected because of the unique shareholding structure and institutional arrangements among the enterprises of the group. In a widely-held firm, stockholders are the owners and managers are the decision agents; this distinction is not clear in Japan. Interlocking of stocks among the enterprises of a group and undisclosed, binding associations of companies are also common practices in Japan. Moreover, Japanese financial institutions with sizable equity stakes in firms may reduce agency conflicts between owners and managers by controlling managers' consumption prerequisites and by reducing their scope to pursue goals other than profit maximization.

As for agency-debt variable, it was insignificant for the Japanese firms but possessed a correct positive sign, a result which is inconsistent with Dodd's results. According to agency theory, firms with shorter maturity debt (a high ratio of short-

term debt) should reduce agency costs of debt, thus allowing for higher levels of debt relative to equity. Therefore, the positive sign of the coefficient of agency-debt variable obtained in our results conform with this theoretical expectation, although it was statistically insignificant. In Japan the typical terms and covenants of debt is seem likely to reduce agency costs more effectively. Most of the debts of Japanese companies are short-term and they are mainly supplied by banks. The continual rolling over of short-term debt is one of the ways of alleviating the potential underinvestment problem associated with debt. The wide spread use of secured debt should also lower agency costs by reducing the monitoring costs associated with debt and the scope for asset substitution. The funding of new projects with secured debt can also relieve the underinvestment problems by enabling the shareholder to capture a larger fraction of the projects' value in contrast to what might be possible with unsecured debt.

Bankruptcy risk variable for Japanese firms is found statistically significant with the correct theoretical sign. Since bankruptcy risk variable has an inverse relationship with capital structure any increase in bankruptcy risk may lead to the reduction of debt ratio. Although an important financial benefit arising from Japanese corporate ownership and banking relationships has reduced costs of bankruptcy, corporate bankruptcies exist in Japan.

As for the parameter estimates of Bangladeshi firms (1989-1994), out of five variables four are found significant. These variables include agency-debt, bankruptcy risk, profitability and operating leverage. Thus, apart from the operating leverage, the other three variables have the expected theoretical signs. The growth rate variable has the expected sign (positive), however, it is not

significant. For Bangladesh, profitability and operating leverage are significant, although operating leverage has the wrong sign, and growth rate variable is not significant as a determinant of capital structure. The overall regression results for the Bangladeshi firms conform to the theoretical expectation.

The parameter estimates (1995-2000) reveal, out of five variables all are found significant as a determinant of capital structure. These variables include agency-debt, bankruptcy risk, growth rate, profitability and operating leverage. Thus, apart from the agency-debt and growth rate, the other three variables have the expected theoretical signs. The overall regression results for the Bangladeshi firms conform to the theoretical expectation. Unfortunately, data were not available for testing the role of agency-equity costs in determining capital structure in Bangladeshi firms.

Japanese and Bangladeshi regressions are compared to obtain information to identify the source of differences between them. The Chow test is conducted to statistically compare the Japanese and Bangladeshi regression equations. It is revealed that the F value for the period 1989-1994 is 4.1060 and for 1995-2000 is 9.44 and is significant at the 5 percent level. Thus, the two regression equations (Japan and Bangladesh) are statistically different.

The focus of this study is the source of the difference in the two regressions. Agency-debt and bankruptcy risk proxies' regression coefficients are tested for statistical differences for the periods 1989-1994 and 1995-2000 between Japanese and Bangladeshi firms. The null hypothesis for agency-debt variable is that the cross sectional relationship to debt ratios for Japanese firms is equal to or more positive for Bangladeshi firms and the alternative hypothesis is that the relationship is less positive than the relationship for Bangladeshi firms. The expected result is

that the relationship to debt ratios is less positive for Japanese firms than that of Bangladeshi firms. The result of the statistical test reveals that the *t* value for the agency–debt test is significant at the 5 percent level for both the periods. Thus, the null hypothesis is rejected. This rejection conforms to priori expectations.

The null hypothesis for the bankruptcy risk variable is that the cross-sectional relationship to debt ratios for Japanese firms is equal to or more negative than for Bangladeshi firms. The alternative hypothesis is that the relationship of bankruptcy risk to debt ratios for Japanese firms is less negative than that for Bangladeshi firms. The expected result is that the relationship of bankruptcy risk and debt ratios in Japanese firms is less negative than that for Bangladeshi firms. The result of the statistical test shows that the *t* value for the bankruptcy risk is not significant for the period 1989-1994. Thus, the null hypothesis for the bankruptcy risk is not rejected. However, for the period 1995-2000 the result of the statistical test shows that the *t* value for the bankruptcy risk is significant. Thus, the null hypothesis is rejected. This rejection conforms to priori expectations. However, due to non-availability of agency-equity data for Bangladeshi firm, cross-sectional relationship for this variable could not be tested. Thus, this is one of the limitations of this study. We have compared our results with previous studies (Dodd, 1986) regarding the signs and significances of the variables included in the study. Our regression results, particularly for Bangladesh, is more or less consistent with the US sample.

Thus, the estimated results provide empirical support for the theoretical agency relationships in determining capital structure in particular for Bangladeshi firms. These results are consistent with the fact that due to the institutional differences between the two countries agency structures should also be different. Moreover,

Japanese financial institutions, motivated by a desire to lessen one or both of the agency conflicts between shareholders and managers and shareholders and debtholders, actively monitor the firm in which they invest, and thereby contribute towards mitigating the agency conflicts more effectively.

The significant features and contributions of this study are as follows:

- i) This study has documented for the first time that the agency model of capital structure can be applied for the determination of capital structure in a developing economy like Bangladesh.
- ii) This study has confirmed significant differences in the agency relationships and capital structure between Japan and Bangladesh.
- iii) We have documented for the first time that the capital structure and cost of capital of Japan and Bangladesh are significantly different.
- iv) This study has identified significant differences in the agency and corporate governance structure and institutional environment between Japan and Bangladesh in mitigating agency conflicts and costs.
- v) We have also documented for the first time that agency model of dividend can be applied for a developing economy like Bangladesh. It is observed that dividend policy vary across legal regimes in ways that are consistent with the outcome agency models of dividends and depends on shareholder protection. We have observed that dividend behaviors of Japan and Bangladeshi are different due to regulatory and institutional differences.

Unlike the previous studies, this study has covered a period of recession that began with the collapse of the bubble economy in 1991 and is continuing for the second longest period in Japan. Due to the recession, the research results may

differ in some respects with those of the prior studies. Though the agency cost models were tested earlier for developed countries such as the USA and Japan, this study marks for the first time that this analytical framework can also be applied to a developing economy like Bangladesh. Future research can be directed towards further analysis for better understanding of these agency relationships with capital structure. Additional insight can be brought forth by testing the effects of the relationships between shareholders, debtholders and managers for other financial decisions and in other institutional environments using different methodologies.

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DATA APPENDIX

Table-1
Total Assets
(Japan)

(In Million Yen)

Co	1989	1990	1991	1992	1993	1994
1	1,110,612	1,228,219	1,382,704	1,527,489	1,839,314	2,239,038
2	42,381	50,994	77,246	97,465	79,054	88,403
3	79,543	80,407	82,482	90,556	95,216	98,898
4	27,731	28,810	39,993	40,359	40,220	44,800
5	58,547	53,868	38,796	38,480	40,168	37,732
6	143,269	143,062	162,155	177,802	157,978	159,844
7	306,718	318,268	337,211	412,088	412,341	392,919
8	39,917	41,593	45,996	47,745	53,544	53,409
9	425,834	491,382	486,789	591,844	667,897	671,829
10	45,857	47,162	62,616	81,361	86,583	86,514
11	53,995	57,421	58,803	64,482	63,971	62,613
12	50,837	58,512	41,892	40,992	35,823	36,750
13	11,287	11,768	12,377	14,755	14,940	16,019
14	294,842	304,464	294,281	311,857	368,136	340,752
15	231,723	242,104	301,031	310,983	323,764	347,327
16	36,787	40,116	40,930	51,066	53,442	67,207
17	744,152	771,439	895,904	938,536	1,035,131	984,620
18	194,773	209,033	250,807	290,097	273,458	301,867
19	3,331,756	3,145,732	3,019,467	3,331,105	3,353,463	3,431,530
20	22,317	22,452	32,800	46,630	49,839	57,399
21	264,359	272,762	297,907	325,938	379,059	356,362
22	28,638	36,416	39,827	48,382	54,946	48,450
23	270,855	312,482	343,044	376,289	388,096	419,416
24	28,916	36,847	50,371	53,888	55,097	52,861
25	223,220	247,660	310,840	342,794	383,367	405,450
26	29,256	34,021	43,213	47,694	51,232	50,518
27	2,682,554	2,838,109	3,247,273	2,534,496	3,813,377	3,906,947
28	17,417	19,836	22,064	22,674	26,458	27,599
29	20,451	22,605	22,127	25,978	28,918	28,697
30	56,785	61,131	88,547	141,440	150,245	159,219
31	140,331	163,750	175,681	207,555	213,993	221,440
32	55,371	56,117	54,897	58,741	59,975	60,890
33	97,402	112,444	118,625	149,481	151,521	152,260
34	27,767	31,868	44,116	51,841	69,956	64,553
35	35,983	32,911	33,145	31,607	33,354	35,359
36	554,641	566,030	614,324	787,628	845,010	821,291
37	659,434	695,645	790,062	809,025	897,835	851,410
38	33,291	33,133	36,428	39,326	44,285	39,821
39	1,767,892	1,692,143	1,656,904	1,765,351	1,888,297	1,921,529
40	2,415,261	2,300,510	2,166,881	2,230,244	2,239,429	2,252,997
41	41,526	46,332	52,655	54,351	61,904	56,365
42	98,675	104,467	131,478	145,139	167,220	176,808
43	30,682	29,476	34,047	40,042	47,999	44,280
44	14,628	15,372	15,407	16,555	18,555	24,349
45	2,331,750	2,419,325	2,652,915	3,214,395	2,366,288	3,592,844
46	1,620,124	1,668,848	1,949,689	2,296,289	2,344,528	2,423,020
47	26,117	28,977	32,598	37,093	41,625	44,573
48	19,508	24,237	25,931	30,221	31,234	32,021
49	47,994	45,268	55,111	63,376	77,194	89,997
50	27,319	29,676	26,031	24,564	31,596	30,070

Table-2
Total Assets (Japan)

(In Million Yen)

Co	1995	1996	1997	1998	1999	2000
1	2221224	2456438	2765408	3054978	3678628	4478076
2	84762	101988	154492	194930	158108	176806
3	159086	160814	164964	181112	190432	197796
4	55462	57620	79986	80718	80440	89600
5	117094	107738	77592	78960	80336	75464
6	286538	286124	324310	355604	315956	319688
7	613436	636536	674422	824176	824682	785838
8	79834	83186	91992	95490	107088	106818
9	851668	982764	973578	1183688	1335794	1343658
10	91714	94324	94324	125232	162722	173028
11	107990	114842	117806	128964	127942	125228
12	101674	117024	83784	81984	71646	73500
13	22574	23536	24754	29510	29880	32038
14	589684	608928	588562	623714	736272	681504
15	463446	484208	602062	621966	647528	694654
16	73574	80232	81860	102132	106884	134414
17	1488304	1542878	1791808	1877072	2070262	1969240
18	389546	418066	501614	580194	546916	603734
19	6663512	6291464	6038934	6662210	6706926	6863060
20	44634	44904	65600	93260	99678	114798
21	528718	545524	595814	651876	758118	712724
22	57276	72832	79654	96764	109892	96900
23	541710	624964	686088	752578	776192	838832
24	57832	73694	100742	107776	110194	105722
25	446440	495320	621680	685588	766734	810900
26	58512	68042	86426	95388	102464	101036
27	5365108	5676218	6494546	5068992	7626754	7813894
28	34834	39672	44128	45348	52916	55198
29	40902	45210	44254	51956	57838	57394
30	113570	122262	177094	282880	300490	318438
31	280682	327500	351362	415110	427986	442880
32	110742	112234	109794	117482	119950	121780
33	194804	224888	237250	298962	303042	304520
34	55534	63736	88232	103682	139912	129106
35	71966	65822	66290	63214	66708	70718
36	1109282	1132060	1228648	1575256	1690020	1642582
37	1318868	1391290	1580124	1618050	1795670	1702820
38	66582	66268	72856	78652	88570	79642
39	3535784	3384286	3313808	3530702	3776594	3843058
40	4830522	4601020	4333762	4460488	4478858	4505994
41	83052	92664	105310	108702	123808	112730
42	197350	208934	262956	290278	334440	353616
43	61364	58952	68094	80084	95998	88560
44	29256	30744	30814	33110	37110	48698
45	4663500	4838650	5305830	6428790	4732576	7185688
46	3240248	3337696	3899378	4592578	4689056	4846040
47	52234	57954	65196	74186	83250	89146
48	39016	48474	51862	60442	62468	64042
49	95988	90536	110222	126752	154388	179994
50	54638	59352	52062	49128	63192	60140

Table-2 (Contd)						
Co	1995	1996	1997	1998	1999	2000
51	84762	101988	154492	194930	158108	176806
52	159086	160814	164964	181112	190432	197796
53	55462	57620	79986	80718	80440	89600
54	117009	107736	77592	76960	80336	75464
55	286538	286124	324310	355604	315956	319688
56	513436	636536	674422	824176	824682	775838
57	79834	83186	91992	95490	107088	106818
58	751668	982764	973578	1183688	1335794	1443658
59	91714	94324	125232	162722	173166	173028
60	107910	114842	117606	128964	127942	125226
61	101674	117024	83784	81984	71646	73500
62	57276	72832	79654	96764	109892	96900
63	94324	125232	162722	173166	173028	91714
64	91714	91714	982764	973578	1183688	1335794
65	94324	125232	162722	173166	173028	162722
66	114842	117606	128964	127942	125226	128964
67	117024	83784	81984	71646	73500	71646
68	72832	79654	96764	109892	96900	109892
69	57954	65196	74186	52234	96764	91714
70	48474	51862	60442	39016	39016	125232
71	90536	110222	126752	95988	95988	117606
72	51862	57276	72832	79654	96764	83784
73	91714	982764	973578	91714	109892	79654
74	114842	117606	128964	127942	173166	173028
75	79654	57276	72832	79654	91714	94324
76	125232	162722	94324	162722	162722	162722
77	117606	128964	114842	128964	128964	128964
78	83784	81984	117024	71646	71646	81984
79	79654	96764	72832	109892	109892	96764
80	65196	74186	57954	91714	117606	74186
81	51862	60442	48474	125232	125232	60442
82	110222	126752	90536	91714	117606	126752
83	57276	72832	51862	83784	65196	72832
84	52234	109892	96764	65196	57276	83784
85	39016	91714	74186	51862	94324	79654
86	95988	125232	60442	110222	91714	162722
87	79654	91714	126752	57276	94324	982764
88	91714	83784	91992	982764	114842	162722
89	127942	110222	973578	117606	117024	128964
90	79654	57276	125232	57276	72832	81984
91	162722	982764	117606	162722	57954	96764
92	128964	117606	83784	109892	48474	74186
93	71646	57276	79654	52234	90536	71646
94	52062	162722	162722	39016	51862	109892
95	154492	128964	91714	95988	91714	91714
96	164964	79654	125232	79654	83784	125232
97	79986	162722	128964	91714	125232	128964
98	77592	128964	71646	127942	91714	91714
99	324310	71646	109892	79654	125232	125232
100	674422	109892	91714	162722	91714	91714

Table-3
EBIT (Japan)

(In Million Yen)

CO.	1989	1990	1991	1992	1993	1994
1	37,134	40,926	52,589	69,007	98,232	117,778
2	3,366	4,148	4,866	4,803	5,037	5,853
3	5,262	5,504	5,131	8,864	4,651	4,617
4	2,131	1,861	2,267	2,582	2,803	3,100
5	5,554	6,658	2,845	2,787	2,841	2,417
6	12,959	7,558	128,864	138,551	13,030	12,563
7	21,431	24,087	23,846	21,690	15,136	10,178
8	2,947	1,670	3,110	3,317	4,416	4,400
9	31,495	38,719	49,174	48,838	39,605	30,259
10	5,767	6,256	6,534	6,677	7,237	7,642
11	2,307	2,810	1,766	3,484	3,598	3,576
12	5,488	6,607	3,045	2,720	2,866	1,838
13	988	974	1,019	1,149	1,230	1,300
14	13,613	18,361	19,667	10,268	26,227	24,739
15	13,923	16,493	19,853	22,209	20,392	18,038
16	2,138	2,305	1,695	2,002	2,318	2,342
17	68,490	81,961	90,669	71,287	69,054	47,107
18	8,185	11,094	20,182	23,349	15,233	17,137
19	110,187	164,343	248,846	283,822	247,719	186,815
20	1,829	827	3,037	3,220	3,986	3,203
21	14,209	24,421	22,958	22,970	23,753	19,702
22	836	2,268	2,890	3,851	3,570	1,934
23	39,794	45,229	45,216	53,533	63,160	58,485
24	2,243	2,620	2,992	3,240	1,613	1,177
25	17,125	19,441	23,651	28,673	32,294	26,659
26	1,942	3,056	3,895	4,771	3,686	4,438
27	112,955	153,464	212,342	250,117	243,600	168,484
28	1,171	1,717	2,290	1,435	1,971	2,175
29	21	632	1,147	1,630	2,853	2,766
30	3,433	3,854	4,821	10,860	15,016	11,188
31	10,801	12,524	14,813	15,126	13,088	11,718
32	2,436	3,097	2,486	2,646	2,925	2,586
33	7,746	9,864	12,867	11,448	9,830	7,258
34	3,050	4,587	2,594	6,401	7,262	4,252
35	2,473	1,821	1,823	1,850	2,183	1,502
36	36,903	48,087	46,132	37,084	39,239	25,280
37	45,536	55,266	61,404	58,389	49,745	32,403
38	2,652	1,924	2,017	2,661	2,473	1,075
39	61,954	84,240	146,409	15,011	128,095	92,175
40	92,329	124,710	175,371	150,206	126,324	112,267
41	2,579	2,776	4,625	4,896	6,623	6,085
42	4,564	5,125	6,457	10,770	11,999	5,179
43	2,040	1,535	2,304	3,301	3,908	973
44	107	213	394	221	810	930
45	70,775	99,630	182,013	238,059	217,483	112,193
46	34,827	64,416	113,556	157,331	165,399	90,931
47	2,106	978	1,433	2,146	2,728	3,099
48	1,243	1,380	1,693	1,834	2,179	2,125
49	2,320	2,553	3,994	6,472	7,837	4,524
50	937	1,872	128	1,492	1,942	1898

Table-4
EBIT (Japan)

(In Million Yen)

	(In Million Yen)					
CO	1995	1996	1997	1998	1999	2000
1	74268	81852	105178	138014	196464	235556
2	6732	8296	9732	9606	10074	11706
3	10524	11008	10262	17728	9302	9234
4	4262	3722	4534	5164	5606	6200
5	11108	13316	5690	5574	5682	4834
6	25918	15116	257728	277102	26060	25126
7	42862	48174	47692	43380	30272	20356
8	5894	3340	6220	6634	8832	8800
9	62990	77438	98348	97676	79210	60518
10	11534	12512	13068	13354	14474	15284
11	4614	5620	3532	6968	7196	7152
12	10976	13214	6090	5440	5732	3676
13	1976	1948	2038	2298	2460	2600
14	27226	36722	39334	20536	52454	49478
15	27846	32986	39706	44418	40784	36076
16	4276	4610	3390	4004	4636	4684
17	136980	163922	181338	142574	138108	94214
18	16370	22188	40364	46698	30466	34274
19	220374	328686	497692	567644	495438	373630
20	3658	1654	6074	6440	7972	6406
21	28418	48842	45916	45940	47506	39404
22	1672	4536	5780	7702	7140	3868
23	79588	90458	90432	107066	126320	116970
24	4486	5240	5984	6480	3226	2354
25	34250	38882	47302	57346	64588	53318
26	3884	6112	7790	9542	7372	8876
27	225910	306928	424684	500234	487200	336968
28	2342	3434	4580	2870	3942	4350
29	42	1264	2294	3260	5706	5532
30	6866	7708	9642	21720	30032	22376
31	21602	25048	29626	30252	26176	23436
32	4872	6194	4972	5292	5850	5172
33	15492	19728	25734	22896	19660	14516
34	6100	9174	5188	12802	14524	8504
35	4946	3642	3646	3700	4366	3004
36	73806	96174	92264	74168	78478	50560
37	91072	110532	122808	116778	99490	64806
38	5304	3848	4034	5322	4946	2150
39	123908	168480	292818	30022	256190	184350
40	184658	249420	350742	300412	252648	224534
41	5158	5552	9250	9792	13246	12170
42	9128	10250	12914	21540	23998	10358
43	4080	3070	4608	6602	7816	1946
44	214	426	788	442	1620	1860
45	141550	199260	364026	476118	434966	224386
46	69654	128832	227112	314662	330798	181862
47	4212	1956	2866	4292	5456	6198
48	2486	2760	3386	3668	4358	4250
49	4640	5106	7988	12944	15674	9048
50	1874	3744	256	2984	3884	3796

Table 4 (Contd.)

51	55701	61389	29863	103510	147348	176667
52	5049	6222	7888	7204	7555	8780
53	7893	8256	7299	13296	6976	6926
54	3196	2791	7696	3873	4204	4650
55	8331	9987	3400	4180	4261	3626
56	19438	11337	4267	2078	19545	18845
57	32146	36130	19329	32535	22704	15267
58	4420	2505	3576	4975 5	6624	6600
59	47242	58078	46659	73257	59407	45389
60	8650	9384	7376	10015	10855	11463
61	3460	4215	9801	5226	5397	5364
62	8232	9910	2649	4080	4299	2757
63	1482	1461	4567	1723	1845	1950
64	20419	27541	15285	15402	39340	37109
65	20884	24739	29500	33313	30588	27057
66	3207	3457	2977	3003	3477	3513
67	102735	122941	25456	106930	103581	70661
68	12277	16641	13600	35023	22849	25706
69	165280	246514	30273	425733	371578	280223
70	2743	1240	3732	4830	5979	4805
71	21313	36631	45557	34455	35629	29553
72	1254	3402	3443	5776	5355	2901
73	59691	67843	43359	80299	94740	87728
74	3364	3930	6782	4860	2419	1766
75	25687	29161	44880	43009	48441	39989
76	2913	4584	3547	7156	5529	6657
77	169432	230196	243135	375175	365400	252726
78	1756	2575	3185	2152	2956	3263
79	3112	948	3435	2445	4279	4149
80	5149	5781	1720	16290	22524	16782
81	16201	18786	17231	22689	19632	17577
82	3654	4645	2228	3969	4387	3879
83	11619	14796	13729	17172	14745	10887
84	4575	6880	19300	9601	10893	6378
85	3709	2731	3891	2775	3274	2253
86	55354	72130	62734	55626	58858	37920
87	68304	82899	69198	87583	74617	48605
88	3978	2886	9210	3991	3710	1613
89	92931	126360	13025	22516	192143	138263
90	138493	187065	219613	225309	189486	168401
91	3868	4164	2630	7344	9935	9128
92	6846	7687	6937	16155	17999	7769
93	3060	2302	9685	4951	5862	1460
94	1602	3190	3456	3315	1215	1395
95	106162	149445	155591	357088	326225	168290
96	52240	96624	87301	83599	88099	136397
97	3159	1467	1703	3219	4092	4649
98	1864	2070	2149	2751	3269	3188
99	3480	3829	2539	9708	11756	6786
100	2715	2808	5991	2238	2913	2847

Table-5
Total Debt, Short-term Debt, Sales (Japan)

(In Million Yen)

CO	TD	STD	SALES	
			1993	1994
1	1,895,745	1,718,695	1,548,878	1,717,273
2	62,585	55,978	95,246	104,750
3	44,058	28,883	140,512	150,858
4	23,506	17,924	55,638	60,367
5	28,863	15,672	54,540	49,779
6	41,434	37,913	117,494	124,242
7	262,680	120,926	317,724	293,976
8	28,741	16,039	78,183	69,836
9	526,698	247,612	436,603	422,212
10	35,956	16,569	68,514	68,739
11	34,704	32,633	103,310	97,986
12	18,915	15,563	19,757	20,537
13	9,252	7,113	15,301	15,488
14	234,440	184,880	579,475	539,027
15	260,889	176,233	295,152	286,798
16	50,524	26,002	74,101	73,500
17	445,058	261,195	1,022,064	1,011,815
18	201,023	133,531	203,415	207,296
19	2,501,853	1,484,682	2,608,283	2,629,398
20	34,394	13,040	29,802	30,443
21	259,867	156,025	291,914	289,525
22	39,456	25,563	50,624	38,103
23	197,116	152,126	527,323	548,285
24	19,752	17,557	65,413	64,103
25	175,311	112,582	583,686	583,537
26	25,762	14,999	56,796	63,774
27	2,454,030	1,722,183	3,788,812	3,925,250
28	13,610	6,535	23,980	23,225
29	14,287	12,522	31,893	31,029
30	68,346	24,122	153,970	141,128
31	124,028	74,504	163,384	172,609
32	21,957	11,809	48,913	52,842
33	100,710	72,405	184,695	195,019
34	26,744	7,337	45,923	41,466
35	31,087	22,105	32,737	32,920
36	631,653	287,900	576,795	508,751
37	696,640	369,823	701,179	624,195
38	34,315	22,150	38,689	38,688
39	1,327,122	632,509	1,185,435	1,208,067
40	1,775,070	1,073,816	1,326,832	1,314,817
41	29,459	23,448	65,182	62,575
42	85,234	59,380	178,968	174,671
43	30,015	21,275	42,332	34,488
44	19,197	18,411	13,308	13,795
45	2,560,566	1,799,391	3,227,711	3,185,061
46	1,799,548	1,165,246	2,588,839	2,611,138
47	40,182	32,712	60,411	64,984
48	23,894	14,080	34,124	34,413
49	48,525	19,670	62,723	59,496
50	13,876	6,605	23,446	24,321

Table-6
Total Debt, Short-term Debt, Sales (Japan)

(In Million Yen)

CO	TD	STD		SALES	
		2000	2000	1999	2000
1		3791490	3437390	3097756	3434548
2		125170	111956	190492	209500
3		88116	57766	281024	301716
4		47012	35848	111276	120734
5		57726	31344	109080	99558
6		82868	75828	234988	248484
7		525360	241852	635448	587952
8		57482	32078	156366	139672
9		1053396	495224	873208	844424
10		71912	33138	137028	137478
11		69408	85266	206620	195972
12		37830	31126	39514	41074
13		18504	14226	30602	30978
14		468880	369760	1158950	1078054
15		521778	352466	590304	573596
16		101048	52004	148202	147000
17		890116	522390	2044128	2023630
18		402046	267062	406830	414592
19		5003706	2969364	5216566	5258796
20		68788	26080	59604	60888
21		519734	312050	583828	579050
22		78912	51126	101248	76206
23		394232	304252	1054648	1096570
24		39504	35114	130826	128206
25		350622	225164	1167372	1167074
26		51524	29998	113592	127548
27		4908060	3444366	7577624	7850500
28		27220	13070	47960	46450
29		28574	25044	63786	62058
30		136692	48244	307940	282256
31		248056	149008	326768	345218
32		43914	23618	97826	105684
33		201420	144810	369390	390038
34		53488	14674	91846	82932
35		62174	44210	65474	65840
36		1263306	575800	1153590	1017502
37		1393280	739646	1402358	1248390
38		68630	44300	77378	77376
39		2654244	1265018	2370870	2416134
40		3550140	2147632	2653664	2629634
41		58918	46896	130364	125150
42		170468	118760	357936	349342
43		60030	42550	84664	68976
44		38394	36822	26616	27590
44		53488	14674	91846	68976
45		3550140	2147632	25044	186363
46		58918	46896	48244	440964
47		170468	118760	149008	104754
48		166914	1309809	23618	633318
49		163620	205542	144810	104112
50		352482	309930	14674	56745
51		5687235	59271	2323317	27756
52		187755	285738	142869	157125
53		132174	421536	210768	226287
54		70518	166914	83457	90551
55		86589	163620	81810	74669
56		124302	352482	176241	186363
57		788040	953172	476586	440964

58	86223	234549	117274.5	104754
59	1580094	1309809	654905	633318
60	107868	205542	102771	103109
61	104112	309930	154965	146979
62	56745	59271	29636	30806
63	27756	45903	22952	23232
64	703320	1738425	869213	808541
65	782667	885456	442728	430197
66	151572	222303	111152	110250
67	1335174	3066192	1533096	1517723
68	603069	610245	305123	310944
69	7505559	7824849	3912425	3944097
70	103182	89406	44703	45665
71	779601	875742	437871	434288
72	118368	151872	75936	57155
73	591348	1581969	790985	822428
74	59256	196239	98120	96155
75	525933	1751058	875529	875306
76	77286	170388	85194	95661
77	7362090	11366436	5683218	5887875
78	40830	71940	35970	34838
79	42861	95679	47840	46544
80	205038	461910	230955	211692
81	372084	490152	245076	258914
82	65871	146739	73370	79263
83	302130	554085	277043	292529
84	80232	137769	68885	62199
85	93261	98211	49106	49380
86	1894959	1730385	865193	763127
87	2089920	2103537	1051769	936293
88	102945	116067	58034	58032
89	3981366	3556305	1778153	1812101
90	5325210	3980496	1990248	1972226
91	88377	195546	97773	93863
92	255702	536904	268452	262007
93	90045	126996	63498	51732
94	57591	39924	19962	20693
95	7681698	9683133	4841567	4777592
96	5398644	7766517	3883259	3916707
97	120546	181233	90617	97476
98	71682	102372	51186	51620
99	145575	188169	94085	89244
100	41628	72963	36482	36482

Table-7
Cash flow, Dividend, Sales, Earnings
(Japan)

(In Million Yen)

Company	Cash Flow 2000	Dividend 2000	Sales 1999	Sales 2000	Earnings
1	220555	15094	1273261	1717273	92801
2	15089	1292	77929	104750	2022
3	33876	2546	142491	150858	2674
4	61648	964	44956	60367	1954
5	9905	725	44061	49779	1433
6	7459	708	48110	124242	6436
7	56386	1347	294926	293976	6479
8	14090	1133	63906	69836	2517
9	190915	7515	394766	422212	15059
10	18325	1478	59349	68739	4337
11	13435	1120	56951	97986	2357
12	13357	1041	19542	20537	1288
13	746	746	14557	15488	895
14	15024	1268	436715	539027	23143
15	77037	4982	264672	286798	11909
16	7903	229	55224	73500	1082
17	145037	5846	925931	1011815	27394
18	47873	3653	194564	207293	10950
19	164174	20669	2385412	2629398	83757
20	2994	121	25745	30443	2458
21	48312	1116	267480	289525	9288
22	4729	421	37049	38103	1248
23	107157	9758	465968	548285	24784
24	6762	549	56010	64103	1042
25	49740	6830	437443	583537	17349
26	13441	1249	53669	63774	3272
27	994166	77994	3232001	3925250	130786
28	7577	812	22451	23225	1565
29	5540	537	25199	31029	1044
30	23248	2275	84761	141128	5681
31	53778	2863	149561	172609	6003
32	11328	517	43472	52842	1015
33	38570	2045	152084	195019	5411
34	16829	1156	39510	41466	2500
35	7084	513	31591	32920	1016
36	88155	3093	525471	508751	10191
37	136145	10531	601653	624195	18234
38	7500	429	37817	38688	681
39	215492	19754	1052683	1208067	43768
40	283707	10808	1261225	1314817	57816
41	14090	1347	60115	62575	3759
42	19710	1067	133281	174671	2416
43	6328	277	33501	34488	677
44	2167	189	10458	13795	558
45	889697	27593	2921473	3185061	62559
46	633704	23773	2230103	2611138	61531
47	10069	778	47670	64984	1638
48	8469	640	25902	34413	1603
49	12267	529	51050	59496	2184
50	6156	312	19489	24321	849

Table-7
Cash flow, Dividend, Sales, Earnings
(Japan) Contd.

(In Million Yen)

Company	Cash Flow 2000	Dividend 2000	Sales 1999	Sales 2000	Earnings
51	441110	30188	2546522	3434546	185602
52	30178	2584	155858	209500	4044
53	67752	5092	284982	301716	5348
54	123296	1928	89912	120734	3908
55	19810	1450	88122	99558	2866
56	14918	1416	96220	248484	12872
57	112772	2694	589852	587952	12958
58	28180	2266	127812	139672	5034
59	381830	15030	789532	844424	30118
60	36650	2956	118698	137478	8674
61	26870	2240	113902	195972	4714
62	26714	2082	39084	41074	2576
63	1492	1492	29114	30976	1790
64	30048	2536	873430	1078054	46286
65	154074	9964	529344	573596	23818
66	15806	458	110448	147000	2164
67	290074	11692	1851862	2023630	54788
68	95746	7306	389128	414586	21900
69	328348	41338	4770824	5258796	167514
70	5988	242	51490	60886	4916
71	96624	2232	534960	579050	18576
72	9458	842	74098	76206	2496
73	214314	19516	931936	1096570	49568
74	13524	1098	112020	128206	2084
75	99480	13660	874886	1167074	34698
76	26882	2498	107338	127548	6544
77	1988332	155988	6464002	7850500	261572
78	15154	1624	44902	46450	3130
79	11080	1074	50398	62058	2088
80	46496	4550	169522	282256	11362
81	107556	5726	299122	345218	12006
82	22656	1034	86944	105684	2030
83	77140	4090	304168	390038	10822
84	33658	2312	79020	82932	5000
85	14168	1026	63182	65840	2032
86	176310	6186	1050942	1017502	20382
87	272290	21062	1203306	1248390	36468
88	15000	858	75634	77376	1362
89	430984	39508	2105366	2416134	87536
90	567414	21616	2522450	2629634	115632
91	28180	2694	120230	125150	7518
92	39420	2134	266562	349342	4832
93	12656	554	67002	68976	1354
94	4334	378	20916	27590	1116
95	1779394	55186	5842946	6370122	125118
96	1267408	47546	4460206	5222276	123062
97	20138	1556	95340	129968	3276
98	16938	1280	51804	68826	3206
99	24534	1058	102100	118992	4368
100	12312	624	38978	48642	1698

Table-8
Net Income, Interest, Net Assets, Accounts Payable
(Japan)

(In Million Yen)

Company	Net Income	Interest	Net Assets	A / Payables
1	92801	24,977	2,211,414	6,172
2	2022	3,831	74,295	6,213
3	2674	1,943	81,895	5,214
4	1954	1,146	37,176	2,145
5	1433	984	30,000	4,587
6	6436	6,127	139,514	4,852
7	6479	3,699	364,849	10,214
8	2517	1,883	43,562	3,526
9	15059	15,200	662,992	1,692
10	4337	3,305	74,968	6,125
11	2357	1,219	53,503	2,892
12	1288	550	32,347	2,214
13	895	405	10,746	2,532
14	23143	1,596	329,552	4,215
15	11909	6,129	328,261	11,215
16	1082	1,260	43,114	12,852
17	27394	19,713	932,235	26,514
18	10950	6,187	261,744	14,875
19	83757	103,058	3,380,263	24,125
20	2458	745	47,307	5,217
21	9288	10,414	350,206	2,587
22	1248	686	40,015	2,541
23	24784	33,701	339,345	32,179
24	1042	135	40,068	7,524
25	17349	9,310	371,013	16,985
26	3272	1,166	20,177	11,587
27	130786	37,698	3,707,275	121,547
28	1565	610	20,939	2,139
29	1044	1,722	18,731	4,752
30	5681	5,507	128,754	5,876
31	6003	5,715	216,658	1,258
32	1015	1,571	39,779	7,459
33	5411	1,847	140,366	6,148
34	2500	1,752	44,066	3,698
35	1016	486	27,317	3,521
36	10191	15,089	794,346	5,521
37	18234	14,169	827,512	11,317
38	681	394	31,813	2,587
39	43768	48,407	1,851,263	43,124
40	57816	54,451	2,079,156	58,714
41	3759	2,326	46,479	2,365
42	2416	2,763	146,853	11,257
43	677	296	37,995	3,698
44	558	372	21,226	1,254
45	62559	49,634	3,566,406	13,875
46	61531	29,400	2,350,048	25,987
47	1638	1,461	39,656	2,548
48	1603	522	23,309	4,125
49	2184	2,340	48,689	15,429
50	849	1,049	16,848	5,631
Table- 8 Contd				

Company	Net Income	Interest	Net Assets	A / Payables
51	139202	37466	3317121	9258
52	3033	5747	111443	9320
53	4011	2915	122843	7821
54	2931	1719	55764	3218
55	2150	1476	45000	6881
56	9654	9191	209271	7278
57	9719	5549	547274	15321
58	3776	2825	65343	5289
59	22589	22800	994488	2538
60	6506	4958	112452	9188
61	3536	1829	80255	4338
62	1932	825	48521	3321
63	1343	608	16119	3798
64	34715	2394	494328	6323
65	17864	9193.5	492392	16823
66	1623	1890	64671	19278
67	41091	29570	1398352.5	39771
68	16425	9281	392616	22313
69	125636	154587	5070394.5	36188
70	3687	1118	70960.5	7826
71	13932	15621	525309	3881
72	1872	1029	60023	3812
73	37176	50552	509018	48269
74	1563	203	60102	11286
75	26024	13965	556520	25478
76	4908	1749	30266	17381
77	196179	56547	5560912.5	182321
78	2347.5	915	31409	3209
79	1566	2583	28097	7128
80	8522	8261	193131	8814
81	9005	8573	324987	1887
82	1523	2357	59669	11189
83	8117	2771	210549	9222
84	3750	2628	66099	5547
85	1524	729	40976	5282
86	15287	22634	1191519	8282
87	27351	21254	1241268	16976
88	1022	591	47720	3881
89	65652	72611	2776894.5	64686
90	86724	81677	3118734	88071
91	5639	3489	69719	3548
92	3624	4145	220280	16886
93	1015.5	444	56993	5547
94	837	558	31839	1881
95	93839	74451	5349609	20813
96	92297	44100	3525072	38981
97	2457	2192	59484	3822
98	2405	783	34964	6188
99	3276	3510	73034	23144
100	1274	1573.5	25272	8447

Table-9
Current Liabilities, Depreciation, Equity, Total Debt
(Japan)

(In Million Yen)

Company	Current Liabilities	Depreciation	Equity ⁹⁴	Total Debt 94
1	21,452	92801	343,293	1,895,745
2	7,895	199	25,818	62,585
3	11,789	246	54,840	44,058
4	5,479	1475	21,294	23,506
5	3,145	195	8,869	28,863
6	15,478	22647	118,410	41,434
7	17,856	7226	130,239	262,680
8	6,321	1569	24,668	28,741
9	7,145	19586	145,131	526,698
10	5,421	82697	50,558	35,956
11	6,218	219	27,909	34,704
12	2,189	180	17,835	18,915
13	2,741	202	6,767	9,252
14	6,985	647	106,312	234,440
15	7,851	1560	86,438	260,889
16	11,241	113	16,683	50,524
17	25,871	487	539,562	445,058
18	25,248	77	100,844	201,023
19	27,142	18461	929,677	2,501,853
20	4,875	127	23,005	34,394
21	3,569	1074	96,495	259,867
22	5,894	167	8,994	39,456
23	47,892	262	222,300	197,116
24	5,269	8814	33,109	19,752
25	17,452	330	230,139	175,311
26	18,754	194	24,756	25,762
27	78,125	4065	1,452,917	2,454,030
28	4,521	834	13,989	13,610
29	5,214	638	14,410	14,287
30	24,589	1672	90,873	68,346
31	3,524	1873	97,412	124,028
32	13,652	93	38,933	21,957
33	5,746	760	51,550	100,710
34	16,789	316	37,809	26,744
35	4,521	820	4,272	31,087
36	21,424	1377	189,638	631,653
37	12,581	33952	154,770	696,640
38	5,421	124	5,506	34,315
39	27,142	5025	594,407	1,327,122
40	115,127	18200	477,927	1,775,070
41	7,521	166905	26,906	29,459
42	18,698	116	91,574	85,234
43	2,587	145	14,265	30,015
44	1,869	271	5,152	19,197
45	12,563	22343	1,032,278	2,560,566
46	46,985	10590	623,472	1,799,548
47	2,369	1562	4,391	40,182
48	4,587	101	8,127	23,894
49	25,879	253	41,472	48,525
50	7,591	519	16,194	13,876

Table-10
Capital Structure Data
(Japan)

Co.	DR	AE	AD	BR	GR	PR	OL
1	0.8470	0.2640	0.9060	0.1990	-0.2730	0.0530	1.9000
2	0.7080	0.4530	0.8940	0.1600	0.1570	0.0660	0.6160
3	0.4450	0.4210	0.6510	0.2560	0.0440	0.0460	-1.0000
4	0.5250	0.4780	0.7610	0.0920	0.1000	0.0690	0.1600
5	0.7650	0.4600	0.5420	0.2450	0.0850	0.0640	1.7090
6	0.2590	0.3820	0.9150	1.0700	0.0200	0.0780	0.6230
7	0.6690	0.3560	0.4600	0.3370	0.0500	0.0250	4.3800
8	0.5690	0.5820	0.5580	0.2070	0.0590	0.0570	0.0330
9	0.7840	0.2910	0.4700	0.2410	0.0950	0.0450	7.1700
10	0.4150	0.5460	0.4600	0.1950	0.1350	0.0880	17.4600
11	0.5540	0.5770	0.9400	0.2140	0.0300	0.0570	0.1180
12	0.5150	0.4830	0.8200	0.2730	0.0060	0.0500	-9.4100
13	0.5780	0.5150	0.7680	0.0380	0.0720	0.0780	4.4090
14	0.6880	0.6720	0.7890	0.2450	0.0290	0.0720	0.8620
15	0.7510	0.4680	0.6750	0.0980	0.0480	0.0510	4.0780
16	0.7520	0.4960	0.5150	0.1800	0.0120	0.0370	-1.2700
17	0.4520	0.4400	0.5860	0.2490	0.0570	0.0470	31.7800
18	0.6660	0.6180	0.6630	0.1440	0.0280	0.0560	6.3100
19	0.7290	0.2510	0.5930	0.2920	0.0050	0.0540	-30.0000
20	0.5990	0.3780	0.3780	0.2660	0.2070	0.0550	-9.1700
21	0.7290	0.6460	0.6000	0.1840	0.0590	0.0550	21.2500
22	0.8140	0.6050	0.6400	0.3060	0.1100	0.0390	1.8500
23	0.4700	0.4330	0.7720	0.0650	0.0910	0.1390	-1.8600
24	0.3740	0.5450	0.8870	0.2730	0.1200	0.0370	13.4500
25	0.4320	0.5610	0.6410	0.0790	0.1260	0.0650	43.5000
26	0.5100	0.5310	0.5800	0.1080	0.1150	0.0830	1.6700
27	0.6280	0.2400	0.7000	0.1960	0.0780	0.0430	-8.5500
28	0.4930	0.3530	0.4800	0.1710	0.0800	0.0840	-3.3200
29	0.4980	0.4560	0.8700	0.6420	0.0700	0.0960	1.1400
30	0.4290	0.4020	0.3500	0.2080	0.2290	0.0780	3.0500
31	0.5610	0.3860	0.6000	0.1490	0.0950	0.0520	-1.8600
32	0.3610	0.4470	0.5300	0.0900	0.0190	0.0420	-1.4400
33	0.6610	0.4850	0.7180	0.2290	0.0930	0.0470	-4.3800
34	0.4140	0.4840	0.2700	0.2980	0.1830	0.0650	4.7200
35	0.8790	0.6360	0.7100	0.1460	-0.0030	0.0420	-56.5400
36	0.7690	0.4230	0.4500	0.3220	0.0810	0.0300	3.0000
37	0.8180	0.3830	0.5300	0.2210	0.0520	0.0380	3.1700
38	0.8620	0.6750	0.6450	0.2790	0.0360	0.0260	3.5000
39	0.6910	0.3020	0.4760	0.2500	0.1040	0.0470	-14.4300
40	0.7880	0.2800	0.6000	0.2330	0.1380	0.0490	12.3400
41	0.5230	0.3500	0.7950	0.2220	0.0630	0.1070	2.0300
42	0.4820	0.5680	0.6900	0.2910	0.1230	0.0290	23.6700
43	0.6770	0.4070	0.7080	0.3000	0.0760	0.0210	4.0400
44	0.7880	0.6290	0.9500	0.7200	0.1070	0.0380	4.0500
45	0.7130	0.2560	0.7020	0.3470	0.0900	0.0310	37.2100
46	0.7430	0.2910	0.6470	0.3820	0.0830	0.0370	-56.2500
47	0.9020	0.4830	0.8130	0.2750	0.1120	0.0680	1.4600
48	0.7460	0.4660	0.5890	0.0630	0.1040	0.0660	-2.9400
49	0.5390	0.4060	0.4040	0.3070	0.1330	0.0531	8.2300
50	0.4670	0.3810	0.4760	0.4630	0.0190	0.0631	-0.6000

Table-11
Capital Structure Data
(Japan)

	CS	AE	AD	BR	GR	PR	OL
1	0.846	0.2721	0.9101	0.1739	0.1442	0.0542	0.6037
2	0.729	0.4523	0.8033	0.144	0.1421	0.0653	2.7103
3	0.529	0.4245	0.4933	0.3391	0.0776	0.0345	-9.058
4	0.516	0.4782	0.7616	0.1405	0.0942	0.0692	2.2817
5	0.742	0.4602	0.5094	0.2036	-0.0998	0.086	-0.0375
6	0.18	0.3818	0.8666	0.2277	0.068	0.073	-5.717
7	0.669	0.3567	0.4603	0.337	0.05	0.025	-6.521
8	0.612	0.319	0.3823	0.2879	0.0703	0.0691	4.912
9	0.786	0.2948	0.491	0.3552	0.0636	0.0316	3.42
10	0.416	0.5514	0.8744	0.1853	0.1413	0.0867	3.869
11	0.549	0.5319	0.8998	0.3386	0.0086	0.0177	6.3
12	0.536	0.4832	0.8134	0.3315	-0.0783	0.04	-2.9
13	0.582	0.5043	0.7335	0.0254	0.0743	0.0779	0.7272
14	0.702	0.6718	0.8148	0.2254	0.0391	0.0742	54.06
15	0.718	0.4626	0.6337	0.1646	0.0558	0.0429	1.2869
16	0.736	0.5028	0.523	0.2024	0.0903	0.0294	4.179
17	0.451	0.4421	0.5942	0.3069	0.0453	0.0489	-9.791
18	0.658	0.6275	0.6838	0.3019	0.2725	0.0283	16.26
19	0.745	0.248	0.5033	0.2679	0.012	0.0383	0.25
20	0.591	0.3853	0.4365	0.3405	0.2023	0.036	3.8
21	0.418	0.3632	0.6507	0.0608	0.0367	0.0755	8.06
22	0.611	0.365	0.6988	0.2365	0.0964	0.044	1.648
23	0.731	0.4161	0.4993	0.2812	0.0271	0.0303	9.554
24	0.699	0.3344	0.8125	0.0827	0.0106	0.0675	6.8
25	0.838	0.4247	0.6145	0.2119	0.0333	0.0535	17.63
26	0.3765	0.4248	0.7545	0.9123	0.007	0.012	1
27	0.708	0.2504	0.3997	0.37914	0.1386	0.017	2.119
28	0.617	0.3389	0.6364	0.2578	0.0849	0.0279	7.741
29	0.698	0.4066	0.5716	0.3665	0.065	0.0154	7.483
30	0.742	0.328	0.4312	0.3559	0.0193	0.0244	10.53
31	0.797	0.308	0.4805	0.1985	0.4553	0.0364	3.677
32	0.654	0.4171	0.7018	0.4242	0.1561	0.0408	20
33	0.77	0.5032	0.4454	0.3785	0.11	0.0349	7.93
34	0.378	0.4547	0.5978	0.662	0.2094	0.0123	0.857
35	0.766	0.5813	0.5848	0.1732	0.1283	0.0391	4.457
36	0.449	0.3921	0.4855	0.3628	0.0434	0.0172	4.13
37	0.602	0.4688	0.7956	0.4358	0.0624	0.0856	3.563
38	0.778	0.4379	0.7442	0.1917	0.0508	0.0324	44.68
39	0.775	0.3496	0.867	0.3588	0.0231	0.0218	2.884
40	0.591	0.3891	0.5126	0.3117	0.1083	0.0445	-5.719
41	0.475	0.3135	0.6087	0.1018	0.07	0.0902	2.171
42	0.521	0.322	0.6103	0.3458	0.0599	0.027	3.355
43	0.593	0.3569	0.6003	0.3566	0.1025	0.0204	3.32
44	0.586	0.3731	0.7252	0.3908	0.0097	0.0246	2.326

45	0.434	0.3819	0.3824	0.4679	0.0239	0.0908	4.124
46	0.868	0.4345	0.652	0.1743	0.0044	0.0407	6.6796
47	0.154	0.6002	0.5519	0.5373	-0.01	0.0509	5.337
48	0.815	0.4048	0.806	0.1263	-0.012	0.0543	14.549
49	0.655	0.4852	0.6091	0.2272	0.1651	0.0381	3.1525
50	0.203	0.338	0.7487	0.125	0.0633	0.1061	2.7102
51	0.452	0.4531	0.491	0.1632	0.916	0.035	31.38
52	0.395	0.4096	0.724	0.2296	0.0965	0.0274	-0.8311
53	0.761	0.3864	0.7003	0.1075	0.1218	0.0448	-4.489
54	0.725	0.3924	0.5048	0.2657	0.0815	0.025	5.31
55	0.768	0.4351	0.677	0.1323	0.0638	0.0474	0.5041
56	0.656	0.3356	0.6051	0.1405	0.054	0.0379	-4.566
57	0.497	0.6843	0.5171	0.1794	0.0246	0.0481	4.0137
58	0.64	0.3506	0.4843	0.3181	0.105	0.0522	5.6389
59	0.393	0.2888	0.86	0.3794	-0.0182	0.0614	3.216
60	0.342	0.4295	0.3157	0.4128	0.1793	0.0602	0.7
61	0.847	0.264	0.906	0.199	-0.273	0.053	1.9
62	0.708	0.453	0.894	0.16	0.157	0.066	0.616
63	0.445	0.421	0.651	0.256	0.044	0.046	-1
64	0.525	0.478	0.761	0.092	0.1	0.069	0.16
65	0.765	0.46	0.542	0.243	0.085	0.064	1.709
66	0.259	0.382	0.915	1.07	0.022	0.078	0.623
67	0.669	0.356	0.46	0.337	0.05	0.025	4.38
68	0.569	0.582	0.558	0.207	0.059	0.057	0.033
69	0.784	0.291	0.47	0.241	0.095	0.045	7.17
70	0.415	0.546	0.46	0.195	0.135	0.088	17.46
71	0.554	0.577	0.94	0.214	0.03	0.057	0.118
72	0.515	0.483	0.82	0.273	0.06	0.05	-9.41
73	0.578	0.515	0.768	0.038	0.072	0.078	4.409
74	0.688	0.672	0.789	0.245	0.029	0.072	0.862
75	0.751	0.468	0.675	0.098	0.048	0.051	4.078
76	0.752	0.496	0.515	0.18	0.012	0.037	-1.27
77	0.452	0.44	0.586	0.249	0.057	0.047	31.78
78	0.666	0.618	0.663	0.144	0.028	0.056	6.31
79	0.729	0.251	0.593	0.292	0.05	0.054	29.75
80	0.599	0.378	0.378	0.266	0.207	0.055	-9.17
81	0.827	0.2643	0.9068	0.199	-0.273	0.0534	4.197
82	0.691	0.453	0.8958	0.16	0.157	0.0637	0.6776
83	0.448	0.4511	0.6607	0.256	0.044	0.0488	11.76
84	0.509	0.4782	0.7406	0.092	0.1	0.0663	1.44
85	0.789	0.4602	0.5564	0.245	0.085	0.0707	-3.4599
86	0.273	0.382	0.6373	1.07	0.022	0.0824	3
87	0.68	0.3567	0.4029	0.337	0.05	0.0367	37.34
88	0.594	0.5826	0.5875	0.207	0.059	0.0365	15.88
89	0.786	0.2919	0.4898	0.241	0.095	0.0592	-3.37
90	0.4514	0.5461	0.4829	0.195	0.135	0.0835	19.35
91	0.577	0.5759	0.9722	0.214	0.03	0.0562	0.234
92	0.512	0.4837	0.5468	0.273	0.06	0.08	1

93	0.557	0.5156	0.7558	0.038	0.072	0.0823	1.821
94	0.762	0.6721	0.8385	0.245	0.029	0.0712	8.1161
95	0.743	0.4688	0.6444	0.098	0.048	0.0629	2.5487
96	0.713	0.796	0.5455	0.18	0.012	0.0433	1.2143
97	0.448	0.4405	0.4959	0.279	0.057	0.0667	8.0318
98	0.646	0.6148	0.6718	0.144	0.028	0.0557	0.039
99	0.736	0.251	0.5298	0.292	0.05	0.0752	-8.833
100	0.567	0.3788	0.2844	0.266	0.207	0.0799	0.667

Table-12
Dividend Data
(Japan)

Company	Div/CF(%)	Div/Earn(%)	Div/Sales(%)	GS(Annual)
1	6.84	16.26	0.87	6.16
2	9.56	58.95	0.73	6.09
3	7.51	57.81	0.69	1.14
4	5.78	49.33	0.88	6.07
5	7.31	50.59	0.61	2.47
6	9.49	22.01	0.56	20.89
7	2.38	20.79	0.46	0.65
8	8.04	45.01	0.76	1.79
9	5.52	33.63	0.62	1.35
10	8.06	24.9	0.69	2.98
11	8.33	37.51	0.83	11.46
12	7.79	40.82	0.5	0.99
13	5.38	10.5	0.61	1.24
14	8.43	22.5	0.24	4.29
15	6.46	41.83	0.34	1.61
16	2.89	21.16	0.31	5.88
17	4.03	21.38	0.58	1.78
18	7.63	33.36	0.76	1.27
19	12.58	24.67	0.79	1.96
20	9.39	39.67	0.72	3.4
21	5.83	22.11	0.38	1.59
22	8.9	33.73	0.72	0.56
23	9.1	39.45	0.87	3.3
24	8.11	52.68	0.85	2.73
25	13.73	39.36	1.17	5.93
26	9.29	38.17	0.86	3.51
27	7.84	49.63	0.79	3.96
28	10.72	51.88	0.91	0.68
29	9.69	41.43	0.73	4.25
30	9.75	40.04	0.83	9.96
31	5.32	19.14	1.65	2.9
32	4.56	50.93	0.97	4.75
33	5.3	37.79	0.53	5.09
34	8.62	46.24	0.78	0.97
35	7.24	40.49	1.55	0.82
36	3.5	30.35	0.6	0.64
37	7.6	56.78	0.86	0.73
38	5.72	62.99	1.12	0.45
39	9.16	42.61	0.63	2.79
40	3.8	18.69	0.82	0.82
41	9.55	36.56	2.23	0.8
42	5.41	44.16	0.61	5.55
43	4.37	40.9	0.8	0.58
44	8.72	33.87	1.37	5.69
45	3.1	44.1	0.86	9.02
46	3.75	38.63	0.91	3.2
47	7.72	47.49	1.19	6.39
48	7.56	39.93	0.85	5.84
49	4.31	62.3	0.88	3.1
50	4.78	36.74	1.28	4.52

Table-13
Dividend Data
(Japan)

Co.	IA DV/CF	IA DV/EARN	IA DIV/SALE	IA GS
1	1.36	21.34	0.07	0.04
2	1.36	21.35	0.07	0.03
3	1.06	8.48	0.09	2.46
4	0.67	4	0.095	2.47
5	1.09	14.29	0.025	9.21
6	1.07	14.29	0.025	9.21
7	5.66	12.11	0.15	0.57
8	2.83	12.11	0.15	0.57
9	1.27	8.73	0.03	0.81
10	1.27	4.36	0.035	0.815
11	0.27	1.65	0.28	6.4
12	0.73	1.66	0.05	4.08
13	2.68	28.66	0.05	3.94
14	0.37	16.66	0.31	0.79
15	1.6	2.67	0.21	3.47
16	5.17	18	0.24	0.88
17	1.8	5.99	0.09	0.26
18	1.8	5.99	0.09	0.26
19	2.6	8.01	0.03	0.72
20	2.6	8	0.03	0.72
21	1.535	5.81	0.17	1.03
22	1.535	5.81	0.17	1.03
23	0.1	2.61	0.11	1.42
24	0.99	10.62	0.13	1.99
25	4.56	2.19	0.19	1.21
26	0.09	3.85	0.12	1.21
27	1.44	2.25	0.12	3.28
28	1.44	2.25	0.12	2.85
29	0.03	0.695	0.05	2.86
30	0.03	0.695	0.05	3.28
31	0.76	24.22	0.39	0.93
32	1.46	7.57	0.29	0.92
33	0.72	5.57	0.73	1.265
34	2.6	2.88	0.48	2.875
35	1.22	2.87	0.29	3
36	2.52	13.01	1.2	2.985
37	1.06	7.05	0.02	0.04
38	0.94	13.3	0.28	0.3
39	2.5	7.08	0.21	2.72
40	2.86	31	0.02	0.05
41	2.07	4.08	1.62	2.37
42	2.07	4.08	1.62	2.37
43	3.27	0.47	0.25	6.03
44	1.08	6.56	0.32	0.42
45	4.55	3.67	0.19	2.91
46	3.89	1.8	0.14	2.91
47	0.08	7.06	0.14	0.28
48	0.06	0.5	0.2	0.27
49	3.47	12.78	0.2	0.71
50	3.47	12.78	0.2	0.72

Table-14
Total Assets
(Bangladesh)

(In Thousand Taka)

CO	1989	1990	1991	1992	1993	1994
1	306,422	191,757	211,183	290,703	294,828	340,229
2	253,721	197,033	247,507	208,145	198,725	197,423
3	119,873	160,655	175,246	162,102	166,607	154,637
4	5,882	6,336	10,499	10,348	8,621	8,468
5	61,039	62,947	48,301	32,311	35,646	54,773
6	68,444	73,831	86,987	94,969	148,153	149,652
7	24,356	22,305	23,074	20,605	19,533	20,094
8	107,915	149,905	209,208	233,732	355,641	255,759
9	36,353	38,982	43,261	51,072	31,174	43,261
10	408,248	463,743	511,217	585,967	558,898	711,045
11	274,526	301,692	444,636	537,007	346,790	349,457
12	34,679	37,310	38,965	40,389	45,499	49,680
13	210,017	221,474	274,074	190,718	223,781	233,507
14	20,983	168,707	126,397	123,268	149,856	106,812
15	81,718	98,977	115,307	129,822	137,503	125,622
16	170,586	129,871	110,200	146,587	115,353	172,979
17	228,113	241,309	247,082	257,907	274,695	338,858
18	96,394	91,324	118,381	115,687	108,099	96,722
19	175,924	213,273	330,282	430,030	517,208	585,305
20	16,574	16,564	17,532	17,557	21,542	44,381
21	27,326	99,529	103,521	107,056	133,750	46,110
22	54,192	61,767	75,523	79,559	79,245	81,633
23	42,963	98,282	95,921	102,161	111,193	124,038
24	91,736	97,519	72,946	78,288	56,723	88,309
25	116,572	131,263	124,672	116,111	147,744	136,283
26	141,467	160,655	290,210	302,090	299,758	283,515
27	232,834	261,021	332,666	124,981	135,770	341,103
28	129,784	142,907	151,772	171,742	175,291	149,236
29	44,621	29,098	48,246	36,799	29,078	143,236
30	51,939	62,011	44,250	39,539	71,578	52,147

Table-14
Total Assets (Bangladesh)
(In Thousand Taka)

Total Assets Bangladesh						
CO	1995	1996	1997	1998	1999	2000
1	612844	383514	422366	581406	589656	680458
2	507442	394066	495014	416290	397450	394846
3	239746	321310	350492	324204	333214	309274
4	11764	12672	20998	20696	17242	16936
5	122078	125894	96602	64622	71292	109546
6	136888	147662	173974	189938	296306	299304
7	48712	44610	46148	41210	39066	40188
8	215830	299810	418416	467464	711282	511518
9	72706	77964	86522	102144	62348	86522
10	816496	927486	1022434	1171934	1117796	1422090
11	549052	603384	889272	1074014	693580	698914
12	69358	74620	77930	80778	90998	99360
13	420034	442948	548148	381436	447562	467014
14	41966	337414	252794	246536	299712	213624
15	163436	197954	230614	259644	275006	251244
16	341172	259742	220400	293174	230706	345958
17	456226	482618	494164	515814	549390	677716
18	192788	182648	236762	231374	216198	193444
19	351848	426546	660564	860060	1034416	1170610
20	33148	33128	35064	35114	43084	88762
21	54652	199058	207042	214112	267500	92220
22	108384	123534	151046	159118	158490	163266
23	85926	196564	191842	204322	222386	248076
24	183472	195038	145892	156576	113446	176618
25	233144	262526	249344	232222	295488	272566
26	282934	321310	580420	604180	599516	567030
27	465668	522042	665332	249962	271540	682206
28	259568	285814	303544	343484	350582	298472
29	89242	58196	96492	73598	58156	286472
30	103878	124022	88500	79078	143156	104294
31	107,915	111,765	98547	98754	89754	114789
32	36,353	48795	45782	54782	58975	60124
33	408,248	509754	598751	542175	632145	612459
34	274,526	298652	321541	356412	421689	478596
35	34,679	354698	387942	321456	386512	34789
36	210,017	198562	214596	215987	254893	287542
37	20,983	362159	36892	32145	29147	35781
38	81,718	61,039	68,444	65,897	89,321	102,546
39	170,586	178965	187965	186321	211325	289542
40	228,113	251478	259875	268975	301478	345789
41	61,039	78521	79654	85478	97521	98145
42	68,444	70412	67852	71452	79587	81459
43	24,356	30127	32148	35964	41218	42157
44	107,915	100248	112478	119854	121473	142574
45	36,353	38579	37415	41258	43654	48978

46	408,248	415789	478965	521478	587954	632145
47	274,526	247852	287321	312549	365417	347589
48	34,679	421458	45782	52147	521478	58476
49	170,586	145215	178962	195687	204789	28410
50	228,113	241478	258971	265478	289521	298547

Table-15
EBIT
(Bangladesh)

(In Thousand Taka)

CO	1989	1990	1991	1992	1993	1994
1	21,550	6,706	10,837	5,226	1,827	5,239
2	13,744	52,758	56,056	47,129	37,121	34,968
3	11,297	10,374	8,567	7,943	7,628	7,074
4	211	362	151	505	177	184
5	3,021	2,501	1,735	515	152	5,284
6	2,068	7,963	1,815	5,241	8,891	3,332
7	2,357	2,066	2,142	2,267	1,541	1,680
8	5,298	8,510	14,548	17,708	6,934	13,887
9	2,744	5,039	5,009	3,257	1,194	1,284
10	91,503	95,496	102,304	83,748	105,885	105,741
11	19,192	18,096	24,620	60,538	47,817	46,959
12	810	1,717	1,332	2,345	1,522	624
13	25,165	34,913	38,276	40,211	27,531	22,339
14	2,559	4,742	4,558	1,055	5,371	696
15	1,659	8,648	8,698	1,462	12,801	11,201
16	2,379	540	1,102	3,079	1,578	2,160
17	17,111	37,553	31,870	26,252	13,127	11,854
18	1,383	1,806	4,538	3,055	1,153	4,187
19	14,986	17,383	23,773	35,104	49,792	57,354
20	512	1,036	2,133	676	1,196	1,176
21	278	109	320	406	642	1,922
22	13,374	13,836	7,449	13,985	7,576	11,471
23	433	673	729	445	1,353	1,794
24	988	1,698	3,576	3,917	1,004	1,130
25	7,607	4,323	4,188	5,103	2,689	2,145
26	3,164	23,942	21,475	8,516	10,387	31,562
27	279	322	784	1,829	1,894	2,080
28	20,032	3,378	4,845	20,683	932	205
29	3,168	1,422	1,502	1,872	1,451	1,833
30	3,272	2,437	1,193	2,540	1,088	2,701

Table-15
EBIT (Bangladesh)

Co.	(In Thousand Taka)					
	1995	1996	1997	1998	1999	2000
1	2570	4100	3570	5960	4960	5430
2	16590	17490	22600	28240	20070	25530
3	8480	10270	12030	8400	11640	9580
4	6430	9040	15290	15730	23030	31020
5	2570	4100	3570	5960	4960	5430
6	9090	7780	9330	11490	10640	8660
7	4200	4630	4130	4370	4500	4600
8	2680	1670	3690	1470	-600	440
9	1310	2260	2340	2250	3180	700
10	700	3180	2250	2340	2260	3100
11	12520	9100	6360	5410	4150	3750
12	3750	4150	5410	6360	9100	12520
13	2250	2750	2500	3610	2920	2950
14	-90	270	160	175	269	189
15	180	269	187	198	275	198
16	50	298	1536	359	452	619
17	617	409	368	1059	209	128
18	2859	2987	3678	2587	2789	229
19	2840	3249	4428	-2699	-4082	-5098
20	5069	-4089	-2987	4487	3249	2874
21	854	469	946	597	138	157
22	157	138	579	898	489	874
23	5950	5690	3245	6359	9987	10084
24	10087	9981	6380	3245	5690	5901
25	33835	38961	45718	50070	53256	48970
26	368	946	2570	3245	2859	5690
27	617	579	4200	2789	2920	3180
28	3249	3245	2680	2859	2500	1310
29	12860	6380	16590	9987	5950	5410
30	2987	1310	2570	3245	2500	2750
31	3678	2789	9090	10084	4428	10087
32	4428	6430	3750	2987	3249	2250
33	1536	2250	1059	2859	2250	3750
34	3162	5689	4289	3587	4189	2645
35	4662	4158	3548	4289	4859	3152
36	2857	15256	16589	17489	10014	15987
37	5589	5947	5857	5421	7496	7256
38	7251	7493	6145	5897	5974	5567
39	15897	20145	17485	16659	18759	21473
40	1228	1457	1248	1336	1487	1250
41	1249	1478	1335	1245	1524	1224
42	3012	3724	884	2458	1837	1385
43	49050	38521	31981	25887	22750	19785

44	49025	38154	31952	25884	22757	19752
45	1789	1589	1784	3112	2359	1041
46	1045	2352	2118	1789	1057	1789
47	1785	3925	4152	4528	5514	5595
48	2118	1228	3112	1336	1057	1837
49	4289	5589	5897	4189	4859	3750
50	3548	5974	4158	3678	6145	4428

Table-16
Total Debt, Short-term Debt, Sales
(Bangladesh)

(In Thousand Taka)

	TD		STD		SALES	
	1994	1994	1991	1991	1992	1992
CO						
1	300,864	276,825	155,084		141,051	
2	121,734	107,284	247,644		268,569	
3	90,555	80,277	237,394		217,570	
4	5,900	4,342	2,176		2,278	
5	36,408	20,128	15,851		55,662	
6	101,990	96,859	28,051		25,001	
7	9,044	7,979	14,921		14,003	
8	224,446	192,502	93,972		109,092	
9	35,328	32,050	9,612		80,452	
10	164,087	152,078	941,011		951,173	
11	211,950	68,841	518,641		388,773	
12	23,870	9,634	23,459		17,629	
13	141,154	82,702	293,750		317,031	
14	70,859	63,702	56,516		58,132	
15	54,997	51,807	27,465		27,968	
16	131,671	39,237	10,174		16,472	
17	210,062	56,401	99,750		91,819	
18	64,987	61,295	84,011		14,056	
19	390,301	313,428	228,056		109,627	
20	18,835	5,228	11,055		12,196	
21	34,139	23,122	19,902		22,871	
22	47,115	37,724	62,540		287,056	
23	112,209	56,777	10,145		10,660	
24	75,875	67,483	15,213		15,374	
25	106,218	91,984	13,762		13,399	
26	246,232	230,497	201,276		207,314	
27	214,929	55,817	69,021		74,197	
28	121,546	113,088	165,436		179,401	
29	126,348	65,486	12,214		12,658	
30	37,086	33,233	53,927		34,006	

Table-17
Total Debt, Short-term Debt, Sales (Bangladesh)

CO	TD		SFD		SALES	
	2000	2000	1999	2000	1999	2000
1	601728	553650	310,168			282102
2	243468	214568	495,288			537138
3	181110	160554	474,788			435140
4	11800	8684	4,352			4556
5	72816	40256	31,702			111324
6	203980	193718	56,102			50002
7	18088	15958	29,842			28006
8	448892	385004	187,944			218184
9	70656	64100	19,224			160904
10	328174	304156	1,882,022			1902346
11	423900	137682	1,037,282			777546
12	47740	19268	46,918			35258
13	282308	165404	587,500			634062
14	141718	127404	113,032			116264
15	109994	103614	54,930			55936
16	263342	78474	20,348			32944
17	420124	112802	199,500			183638
18	129974	122590	168,022			28112
19	780602	626856	456,112			219254
20	37670	10456	22,110			24392
21	68278	46244	39,804			45742
22	94230	75448	125,080			574112
23	224418	113554	20,290			21320
24	151750	134966	30,426			30748
25	212436	183968	27,524			26798
26	492464	460994	402,552			414628
27	429858	111634	138,042			148394
28	243092	226176	330,872			358802
29	252696	130972	24,428			25316
30	74172	66466	107,854			68012
31	55629	415236	238,829			176313
32	451296	160926	381,372			335711
33	182601	120415	365,587			271962
34	135832.5	6513	3,351			2847
35	8850	30192	24,411			69577
36	54612	145288	43,199			31251
37	152985	11968	22,978			17503
38	13566	288753	144,717			136365
39	336669	48075	14,802			100565
40	52992	228117	1,449,157		1188966.25	
41	246130	103261	798,707			485966
42	317925	14451	36,127			22036
43	35805	124053	452,375			396288

44	211731	95553	87,035	72665
45	106288	77710	42,296	34961
46	82495	58855	15,668	20590
47	197506	84601	153,615	114773
48	315093	91942	129,377	17570
49	97480	470142	351,206	137033
50	585451	7842	17,025	15245

Table-18
Cash Flow, Dividend, Sales, Earnings
(Bangladesh)

(In Thousand Taka)

Company	C Flow2000	Dividend2000	Sales 1995	Sales 2000	Earnings00
1	17839	2130	135837	141051	4556
2	33887	4560	259055	268569	29445
3	27966	1375	211835	217570	2618
4	11136	300	20711	2278	151
5	11503	2250	25871	55662	4752
6	10758	1056	157812	25001	2068
7	7683	900	11652	14003	925
8	39939	8610	649902	109092	11346
9	5386	2209	77879	80452	692
10	111306	39314	500827	951173	76361
11	97292	22500	154885	388773	42374
12	7025	450	10092	17629	510
13	45524	13500	266761	317031	13959
14	7585	315	88326	58132	779
15	11201	192	18091	27968	6543
16	10199	1320	15285	16472	1109
17	17642	375	123222	91819	10445
18	6187	1260	11018	14056	3489
19	156968	1326	225491	109627	36274
20	4253	780	13049	12196	1072
21	2254	250	8564	22871	1322
22	39387	7087	101233	287056	7843
23	7194	972	9141	10660	1235
24	10563	372	34979	15374	736
25	16142	1500	58430	13399	2087
26	52848	2550	110915	207314	18750
27	28670	1400	49752	74197	1680
28	18487	190	85470	179401	200
29	8670	1350	10560	12658	1575
30	11360	2100	22050	34006	2250
31	17839	2130	135837	141051	4556
32	33887	4560	259055	268569	29445
33	27966	1375	211835	217570	2618
34	11136	300	20711	2278	151
35	11503	2250	25871	55662	4752
36	10758	1056	157812	25001	2068
37	7683	900	11652	14003	925
38	39939	8610	649902	109092	11346
39	5386	2209	77879	80452	692
40	111306	39314	500827	951173	76361
41	97292	22500	154885	388773	42374
42	7025	450	10092	17629	510
43	45524	13500	266761	317031	13959
44	7585	315	88326	58132	779
45	11201	192	18091	27968	6543
46	10199	1320	15285	16472	1109
47	17642	375	123222	91819	10445
48	6187	1260	11018	14056	3489
49	156968	1326	225491	109627	36274
50	4253	780	13049	12196	1072

Table-19
Net Income, Interest, Net Assets, Account Payables
(Bangladesh)

(In Thousand Taka)

Co.	Net Income	Interest	Net Asset	A/C Payable
1	4556	10750	34,339	123402
2	29445	999	58,299	31829
3	2618	3624	75,362	11234
4	151	13386	932	3194
5	4752	3888	44,359	563
6	2068	8834	55,632	11202
7	925	3951	14,944	1233
8	11346	4955	110,905	125604
9	692	3010	7,117	3686
10	76361	25923	511,589	18140
11	42374	276640	277,915	2701
12	510	2628	37,102	3244
13	13959	13669	-47,829	81213
14	779	15010	42,306	797
15	6543	3834	-14,887	35715
16	1109	6981	156,647	5000
17	10445	16769	229,808	72262
18	3489	3130	-9,727	35140
19	36274	45081	247,065	24812
20	1072	1404	34,470	149
21	1322	10279	25,727	1532
22	7843	457	12,770	12928
23	1235	3519	64,509	2753
24	736	6740	-194,483	194483
25	2087	4780	49,632	1711
26	18750	14409	-26,177	26179
27	1680	13186	201,677	6338
28	200	11208	81,160	47924
29	1575	10621	79,492	42429
30	2250	8773	18,032	14346

Table-19
Net Income, Interest, Net Assets, Account Payables
(Bangladesh)

Co	Net Income	Interest	Net Asset	A/C Payable
1	4556	10750	34,339	123402
2	29445	999	58,299	31829
3	2618	3624	75,362	11234
4	151	13386	932	3194
5	4752	3888	44,359	563
6	2068	8834	55,632	11202
7	925	3951	14,944	1233
8	11346	4955	110,905	125604
9	692	3010	7,117	3686
10	76361	25923	511,589	18140
11	42374	276640	277,915	2701
12	510	2628	37,102	3244
13	13959	13669	-47,829	81213
14	779	15010	42,306	797
15	6543	3834	-14,887	35715
16	1109	6981	156,647	5000
17	10445	16769	229,808	72262
18	3489	3130	-9,727	35140
19	36274	45081	247,065	24812
20	1072	1404	34,470	149
21	1322	10279	25,727	1532
22	7843	457	12,770	12928
23	1235	3519	64,509	2753
24	736	6740	-194,483	194483
25	2087	4780	49,632	1711
26	18750	14409	-26,177	26179
27	1680	13186	201,677	6338
28	200	11208	81,160	47924
29	1575	10621	79,492	42429
30	2250	8834	18,032	14346
31	4556	3951	34,339	123402
32	29445	4955	58,299	31829
33	2618	3010	75,362	11234
34	4752	25923	7,117	3194
35	2068	13669	44,359	1233
36	11346	15010	55,632	11202
37	692	45081	14,944	22501
38	76361	1404	-47,829	125604
39	42374	10279	42,306	3686
40	13959	6981	511,589	18140
41	1072	16769	277,915	2701
42	1322	3130	37,102	3244

43	7843	11208	229,808	81213
44	1235	10621	-9,727	1072
45	6543	8773	-14,887	1322
46	1109	457	1,566	7843
47	10445	3519	25,727	1235
48	3489	6740	12,770	736
49	36274	4780	247,065	2087
50	8773	14409	34,470	18750

Table-20
Current Liabilities, Depreciation, Equity, Total Debt
(Bangladesh)

(In Thousand Taka)

Co.	Current Liabilities	Depreciation	Equity	Total Debt
1	182488	3191	39,365	300,864
2	107295	1191	75,689	121,734
3	68041	4984	64,082	90,555
4	4342	69726	2,568	5,900
5	9851	2957	18,365	36,408
6	82818	2338	47,662	101,990
7	3917	856	11,050	9,044
8	19250	7500	31,313	224,446
9	32458	267	7,933	35,328
10	181316	26769	546,958	164,087
11	68841	244643	137,507	211,950
12	9334	2656	25,810	23,870
13	200123	30444	92,353	141,154
14	63709	796	35,953	70,859
15	104794	544	70,625	54,997
16	11332	5978	41,308	131,671
17	36788	442	128,796	210,062
18	71309	160	31,735	64,987
19	313428	590403	195,004	390,301
20	9762	891	25,546	18,835
21	18851	918	11,971	34,139
22	55935	3031	34,518	47,115
23	56776	1144	11,829	112,209
24	88309	1323	12,434	75,875
25	84940	2189	30,065	106,218
26	283513	11013	37,283	246,232
27	133088	6760	126,174	214,929
28	20152	1040	27,690	121,546
29	21315	1242	16,888	126,348
30	19769	957	15,061	37,086

Table-21
Current Liabilities, Depreciation, Equity, Total Debt
(Bangladesh)

(In Thousand Taka)

Co	Current Liabilities	Depreciation	Equity	Total Debt
1	182488	3191	39,365	300,864
2	107295	1191	75,689	121,734
3	68041	4984	64,082	90,555
4	4342	69726	2,568	5,900
5	9851	2957	18,365	36,408
6	82818	2338	47,662	101,990
7	3917	856	11,050	9,044
8	19250	7500	31,313	224,446
9	32458	267	7,933	35,328
10	181316	26769	546,958	164,087
11	68841	244643	137,507	211,950
12	9334	2656	25,810	23,870
13	200123	30444	92,353	141,154
14	63709	796	35,953	70,859
15	104794	544	70,625	54,997
16	11332	5978	41,308	131,671
17	36788	442	128,796	210,062
18	71309	160	31,735	64,987
19	313428	590403	195,004	390,301
20	9762	891	25,546	18,835
21	18851	918	11,971	34,139
22	55935	3031	34,518	47,115
23	56776	1144	11,829	112,209
24	88309	1323	12,434	75,875
25	84940	2189	30,065	106,218
26	283513	11013	37,283	246,232
27	133088	6760	126,174	214,929
28	20152	1040	27,690	121,546
29	21315	1242	16,888	126,348
30	19769	957	15,061	37,086
31	273732	7476	39,365	78,730
32	180942	104589	75,689	151,378
33	102061	4435	64,082	128,164
34	6513	3507	2,568	5,136
35	14776	1284	18,365	36,730
36	124227	11250	47,662	95,324
37	5875	400	11,050	22,100
38	28875	40153	31,313	62,626
39	48687	3669	7,933	15,866
40	271974	3984	546,958	1,093,916
41	103261	1345	137,507	275,014
42	14001	1194	25,810	51,620

43	157191	816	92,353	184,706
44	10998	8967	35,953	71,906
45	55182	663	70,625	141,250
46	14643	240	41,308	82,616
47	470142	8967	128,796	257,592
48	106965	13367	31,735	63,470
49	30228	1377	195,004	390,008
50	199632	4546	25,546	51,092

Table-22
Capital Structure Data
(Bangladesh)

CO.	DR	AD	BR	GR	PR	OL
1	0.8843	0.9201	0.6951	0.0215	0.0154	-20.6300
2	0.6166	0.8813	0.3557	-0.0480	0.1771	-0.6849
3	0.5856	0.8865	0.3110	0.0520	0.0457	0.8694
4	0.6967	0.7358	0.4746	0.0750	0.0217	0.8395
5	0.6647	0.5528	0.7268	-0.0214	0.0964	13.4400
6	0.6815	0.9497	0.6131	0.1690	0.0222	5.7435
7	0.4501	0.8822	0.1073	-0.0377	0.0836	-1.4653
8	0.8775	0.8576	0.3620	0.1880	0.0543	6.2313
9	0.8166	0.9072	0.5376	0.0360	0.0291	0.0102
10	0.2307	0.9268	2.7700	0.1170	0.1487	-0.1198
11	0.6065	0.3247	0.3974	0.0490	0.1343	0.0716
12	0.4804	0.4036	0.4651	0.0740	0.0125	-5.8020
13	0.6045	0.5859	0.2885	0.0210	0.0956	-2.3800
14	0.6634	0.8990	0.9800	0.3840	0.0065	-30.5400
15	0.4378	0.9420	0.5381	0.0890	0.0891	-6.8116
16	0.7612	0.2980	0.4138	0.0027	0.0124	0.5958
17	0.6199	0.2685	0.7799	0.0820	0.0054	1.2180
18	0.6719	0.9432	0.4154	0.0006	0.0432	-3.1610
19	0.6668	0.8030	0.1048	0.2710	0.0979	-0.2924
20	0.4244	0.2776	0.5733	0.2170	0.0264	0.1618
21	0.7404	0.6773	1.3010	0.1100	0.0416	13.3600
22	0.5771	0.8007	0.3538	0.0850	0.1405	0.1432
23	0.9046	0.5059	0.3805	0.2360	0.0144	6.4170
24	0.8592	0.8894	0.6330	-0.0075	0.0127	11.8200
25	0.7794	0.8660	0.4753	0.0310	0.0157	7.6820
26	0.8685	0.9361	0.7441	0.1490	0.1113	67.0700
27	0.6301	0.2597	0.8123	0.0798	0.0061	1.3074
28	0.8144	0.9304	1.0500	0.0280	0.0013	-9.2410
29	0.8821	0.5183	0.4102	0.2619	0.0128	7.2315
30	0.7112	0.8961	0.4313	0.0008	0.0518	-4.0121

Table-23
Capital Structure Data (Bangladesh)

CO	DR	AD	BR	GR	PR	OL
1	2.0373	0.9536	-0.7551	-0.3865	-0.019	0.04605
2	0.5854	0.3327	0.06402	-0.054	0.046	249.5
3	0.5147	0.4052	0.3313	0.2065	0.0485	-3.5532
4	0.4193	0.7397	0.1875	0.1135	0.1376	1.3868
5	0.6904	1	0.1927	0.1092	0.0152	-5.5587
6	0.4249	0.5507	0.2099	0.3309	0.0335	1.9015
7	0.34	0.71	0.18	0.09	0.12	1.55
8	0.2	0.81	0.11	0.1	0.15	1.45
9	0.41	0.73	0.21	0.099	0.11	1.94
10	0.7	0.9093	2.2667	0.01356	-0.13813	-10.77918
11	1.3279	0.33628	0.5459	0.0384	0.03311	2.50733
12	0.8731	0.3077	1.8804	0.0474	-0.0025	5.0245
13	0.23365	1	0.30481	0.0273	0.09604	2.58867
14	1.32	0.96	0.5528	-0.04	0.01	13.43
15	0.68	0.7	1.7432	0.4	-0.06	3.72
16	0.65	0.82	0.2534	0.02	0.04	4.58
17	0.27	1	0.477	0.31	0.03	3.14
18	0.7388305	0.7232103	0.188518	0.1037137	0.0891919	-1.0774695
19	0.7345528	0.9167681	0.128819	0.0498992	0.207561	2.2756958
20	0.6240119	0.2134321	0.9691105	0.1419325	0.0065623	-3.9865386
21	0.1820866	0.7792793	0.1623592	0.1800547	0.1227034	1.3773378
22	0.7801364	0.3283179	0.188518	0.3274974	0.0880017	0.8643678
23	0.6523575	0.5911543	0.8400186	0.1462885	0.0429275	0.3693617
24	0.4937288	0.9318548	0.2983881	0.1855706	0.1003384	0.040865
25	0.4937288	0.9318548	0.0542873	0.1855706	0.1003384	0.040865
26	0.3036308	0.9771596	0.0794884	0.126998	0.1073121	1.6457465
27	0.6455828	0.8275194	0.3409575	0.1082657	0.1105164	11.903017
28	0.30685	0.6320381	0.2457102	-0.009137	0.1315245	-10.355847
29	0.8285441	0.6202312	0.1185875	0.0275164	0.0598659	-2.8989823
30	0.4420893	0.8672945	0.273143	0.1547045	0.1763815	1.3542899
31	0.3072571	0.7921895	0.1369139	0.1224661	0.176744	1.5690073
32	0.6812834	0.7027734	-3.2572106	0.3519737	-0.0631016	3.7077167
33	3.8284192	0.3050014	-2.8120854	-0.0325202	-0.0028419	2.5907584
34	0.6535201	0.8155668	0.2304075	0.0261061	0.0383339	4.4996169
35	0.8901304	0.7133891	0.5012105	0.0960413	0.027933	-7.1209741
36	1.3158268	0.9590076	0.5042545	-0.0092481	0.007807	0.9385475
37	0.6109507	0.662624	0.7786656	0.1458022	0.1635874	0.6067928
38	0.4332665	0.853839	0.1623799	-0.0615612	0.1094188	-0.5147234
39	0.6497512	0.5712904	0.1266942	0.2039274	0.1404818	-2.0256071
40	0.7182129	0.4955402	0.7920882	0.1796752	0.1230642	1.0776238
41	0.6595392	0.8238251	0.4776195	0.181715	0.1262224	0.8948146
42	0.6724265	0.3485614	0.6890198	0.2115367	0.0372175	-0.0801312
43	0.590478	0.4460833	0.7448413	0.1227627	0.0437391	12.769658
44	0.6919487	0.5423693	2.2011718	0.0523953	-0.0064177	-2.6726733
45	0.6912574	0.9455241	0.6411599	0.0553937	0.0865448	8.1609879

46	0.5473092	0.7622108	0.2975656	0.120305	0.1625044	-0.7983126
47	0.668863	0.9557639	0.6107714	0.5174458	0.0406977	8.270942
48	0.6836107	0.5628473	0.6269784	0.2394278	0.0244211	4.9201148
49	0.440947	0.5585723	0.5044972	0.037741	0.0485607	-0.0744048
50	0.5483922	0.6026125	0.1479612	0.1152583	0.2217447	1.6059737

Table-24
Dividend Data
(Bangladesh)

Co	IA DIV/CF	IA DIV/FAR	IA DIV/SALE	IA GS
1	0.1	0.59	0.2	0.22
2	1.52	31.86	0.11	0.26
3	7.02	5.18	0.16	0.32
4	14.97	2.99	11.46	1.39
5	7.62	0.2	38.63	15.97
6	6.82	12.41	11.05	5.89
7	4.93	33.6	1.1	3.12
8	34.05	12.42	2.57	4.05
9	24.39	31.55	2.59	6.2
10	7.37	13.95	1.87	3.265
11	7.37	13.9	1.875	3.2
12	1.87	47.8	0.61	8.05
13	25.12	56.28	2.32	0.25
14	0.31	0.16	1.4	0.17
15	2.82	37.5	1.26	5.34
16	1.39	11.58	0.17	2.26
17	8.96	15.32	0.8	0.65
18	9.28	17.2	7.75	0.12
19	10.25	15.25	0.16	4.22
20	7.24	53.85	5.18	3
21	0.11	0.19	0.12	16.72
22	2.24	3.54	3.32	10.04
23	2.24	3.545	3.32	10.03
24	1.33	10.66	0.13	6.21
25	4.44	10.67	9.04	1.59
26	0.02	47.87	0.92	6.6
27	0.03	22.13	0.26	1.59
28	14.55	0.13	5.11	8.81
29	0.12	1.74	4.5	3.48
30	2.91	5.86	0.11	0.14
31	0.10	0.57	0.106	0.21
32	1.47	30.74	0.155	0.25
33	6.77	5.00	11.082	0.31
34	14.45	2.89	37.355	1.35
35	7.35	0.19	10.685	15.49
36	6.58	11.98	1.064	5.71
37	4.76	32.42	2.485	3.03
38	32.86	11.99	2.505	3.93
39	23.54	30.45	1.808	6.01
40	7.11	13.46	1.813	3.17
41	7.11	13.41	0.590	3.10

42	1.80	46.13	2.243	7.81
43	24.24	54.31	1.354	0.24
44	0.30	0.15	1.218	0.15
45	2.72	36.19	0.184	5.18
46	1.34	11.17	0.774	2.19
47	8.65	14.78	7.494	0.63
48	8.96	16.60	0.155	0.12
49	9.89	14.72	5.009	4.09
50	6.99	51.97	0.116	2.91