A REVISITING OF OWNERSHIP STRUCTURES AND CAPITAL STRUCTURE RELATIONSHIP: EVIDENCE FROM POST EAST ASIAN FINANCIAL CRISIS

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Abstract: Some previous research findings indicate that the relationship between ownership structure and company performance which is assumed it is influence by the relationship between managers and shareholder of the company. This relationship would have the potential to affect the decision making in an organization which has an impact to company’s value. This purpose of this research is to extend and expand the existing empirical findings by testing the relationship between ownership structure and capital structure in the context of post-Asian financial crisis which has limited research on it. By using the agency theory, we argued that the distribution of ownership structure of the company’s managers and external shareholders group have significant influence on the company’s debt. The sample used in this research is 481 companies in five ASEAN member countries in the period of 2000-2001. The research tested four hypotheses related to the structural ownership and capital structure. The result of the research shows that there is a positive relationship between external shareholders group and company’s debt, the relationship of a linear curve between the level of managerial share ownership and company’s debt, and the relationship between external shareholders group and company’s debt based on the capacity of existing managerial share ownership. The finding of this research is to support the hypotheses of “active monitoring”, “convergence of interest”, and “entrenchment hypotheses” that has been examined in different context.

Keywords: agency cost, ownership structures, capital structure and firm performance

INTRODUCTION

The Asian economic crisis has exposed critical deficiencies in financial systems throughout Asia and has also highlighted the problem of corporate governance among South East Asian corporations. The principal focus of post-crisis research has attempted to link these deficiencies to specific causes such as over-leveraged domestic financial markets, overexposure to foreign exchange risks and monopolistic market structures. Underlying all these issues is a fundamental lack of control. Poor corporate governance is indicative of this problem. Indeed, ‘corporate governance provides at least as convincing an explanation … as any or all of the usual macroeconomic arguments’ (Wong, 2000).

Related to this issue, the recent study commissioned by the Asian Development Bank (2000b) reports that ownership structure determines the governance problem. It explains that the two key features of corporate ownership structure are concentration and composition. Asian firms are perceived to be highly concentrated, family-dominated corporations (Claessens et al. 1999, 2000). It is possible to determine the nature of the agency problem by the degree of dispersion between management and ownership. High dispersion (low concentration) occurs when a large number of individual, i.e. minority shareholders, holds the majority of ownership. The problem then is that between management and minority shareholders. Low dispersion (high concentration) is the condition of the majority of ownership is controlled by a small number of large shareholders. The problem then is between majority and minority shareholders.
Table 1: Ownership Concentration In Asia

<table>
<thead>
<tr>
<th>Profile</th>
<th>Korea</th>
<th>Indonesia</th>
<th>Malaysia</th>
<th>Philippines</th>
<th>Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of public corporations (1998)</td>
<td>345</td>
<td>178</td>
<td>238</td>
<td>120</td>
<td>167</td>
</tr>
<tr>
<td>Percentage of corporations under family control *</td>
<td>24</td>
<td>67</td>
<td>42</td>
<td>46</td>
<td>51</td>
</tr>
<tr>
<td>Average ownership (%) of the five largest shareholders per firm †</td>
<td>38</td>
<td>67</td>
<td>58</td>
<td>60</td>
<td>56</td>
</tr>
<tr>
<td>Ownership (%) of the Ten largest firms (market capitalization) ‡</td>
<td>23</td>
<td>53</td>
<td>46</td>
<td>56</td>
<td>44</td>
</tr>
</tbody>
</table>

* ADB 2000b: 26  
† ADB 2000b: 22  
‡ Nam et al. 1999: 13

In researching data on ownership concentration in Asia, it became apparent that no two studies could provide the same results. This is (as Nam et al. [1999] also note) because of the difficulty in definitively determining ownership structures from the information available. Thus, the figures provided are approximate, taking into account all studies cited. Furthermore, the table represents only publicly listed corporations. It is fair to assume that the concentrated ownership figures presented here would increase dramatically if privately held firms were included in the data set.

From Table 1, it is clear that the primary crisis economies all have concentrated ownership. On average, the five largest shareholders, combined, own 55% of each firm in crisis economies. Indonesia, with 67%, is the largest and Korea, with 38%, the lowest concentration. Thus, with low ownership dispersion the agency problem arises between majority and minority shareholders.

The second part of ownership structure is its composition. Ownership composition essentially means who owns the corporation—who the shareholders are. Examples of shareholders include individuals, a family or family group, a holding company, a bank, an institutional investor or a non-financial corporation (ADB 2000b: 7). Importantly for governance, it must be determined if any owners form a controlling group(s). Table 1 also provides information on the composition of Asian corporations. From it, we can see that Asia consists primarily of family-based ownership. There is a tentative link between composition and concentration. That is, it may be credible to assume that ownership composition is a result of ownership concentration because corporations are often established by founding families.

The Asian Financial Crisis itself has supported previous theoretical and applied literature that has highlighted the complex nature of the relationship between ownership structure, capital structure, and firm performance. Existing literature highlights the agency problems between managers and shareholders. In an attempt to ensure the continued viability of the firm, the latter may result in a generally lower leverage ratio below the optimum level.

For example, Jensen and Meckling (1976) argue that introduction of managerial share ownership may align the interests of managers and shareholders and thus reduce these agency problems. Extending this idea, Brailsford et al. (2002) suggest that the relationship between managerial share ownership and leverage may in fact be non-linear. Stulz (1988) formalized a concave relationship between managerial ownership and firm valuation too; with increase in managerial ownership and control, the negative effect on firm value associated with entrenchment starts to exceed the incentive benefits of managerial ownership. Empirically, Shleifer and Vishny, (1986) suggest that concentration of ownership may improve firm performance while Morck et al., (1988) argue that it may even deteriorate firm performance.

Meanwhile, recent studies about ownership, capital structure, and firm performance, mainly focus on the period pre-crisis. There are such as Claessens et al. (2000) examine the pattern of ownership in seven East Asian countries, Claessens et al. (2002) investigate the effect of large shareholding on firm valuation, and Lemmon and Lins (2003) further link...
ownership structure to stock returns in these countries. None of these recent studies however considers the effect of ownership structure on capital structure and firm performance and the possible interaction between capital structure and firm performance. In other words, a clear understanding of the effects of ownership structure on capital structure and firm performance remains much unexplored, especially an analysis of the post-crisis period.

This condition, of course, triggers a curiosity about the effect of Asian Financial Crisis to the company performance, especially how the Asian corporations react to it, in term of improving their corporate governance practices. Research that concerned about ownership structure, capital structure, and firm performance of South East Asian countries, which are affected by the crisis, is one of research efforts in topic “corporate governance”, in term of post-crisis analysis. This research constituted former investigations in topic corporate governance, which many result of empiric researches show immeasurable finding how a certain event (e.g. crisis, economic recession, or shock) is able to make a decisive change.

The paper’s main problem will be investigating whether the ownership structure can help clarify cross-sectional variation in firm’s capital structure. The study focuses on the effects of managerial share ownership and external block ownership on managerial incentives and consequently on the leverage ratio, since corporate managers and external block holders are two groups of shareholders who have an influence on decisions concerning the allocation of the firm’s resources. Furthermore, previous research of capital structure research has been mainly conducted in the western countries. There is limited evidence in emerging markets, such as in East Asia region. In addition, empirical research on this area has not, to our knowledge, been tested to any greater extent with special focus of post-crisis analysis.

The purpose of this study is to analyze the effect of Asian Financial Crisis on corporate ownership structure, capital structure, and firm performance of the corporations in the most affected countries. It also analyzes how they react to the crisis in term of corporate governance. We will limit the study to the external block ownership model, managerial share ownership model, and the effect of incorporated those model on the corporate financing decision within Indonesia, Malaysia, Thailand, Korea, and Philippines mainly because of the fact that those are the most affected countries in South East Asian region. The study will not include any studies done on ownership structure and firm performance outside East Asia region. This study is limited to comprise study done on ownership structure and firm performance within South East Asia region between the years 2000 - 2001. The reason for choosing this time-horizon will be explained in section two.

The analytical approach of this paper is relatively traditional. First, in section two, the theoretical literature of ownership structure and capital structure are reviewed in order to identify the main hypotheses that may govern the relation between ownership structure and capital structure. After that, in section three, it provides details of the data and model specifications. In section four, it is presented the empirical results and sensitivity analysis. Finally, in section four, it concludes the paper.

1. OWNERSHIP STRUCTURE AND CAPITAL STRUCTURE: ASIAN CORPORATIONS’ CHARACTERISTICS

Unlike companies in the U.S. and U.K. whose shares are diffusely held, one or several members of a family tightly hold shares of a typical Asian corporation. The company is often affiliated with a business group also controlled by the same family, with the group consisting of several to numerous public and private companies. Stock pyramids and cross-shareholdings are the common means used by the family management to achieve effective control of the companies in the group, which can be quite complicated in structure. Moreover, voting rights possessed by the family are frequently higher than the family’s cash flow rights on the firm. Claessens et al. (2000) report these ownership characteristics in detail for a large sample,
2,980 of listed companies in nine Asian economies. The concentrated family ownership is further confirmed in several single-economy studies, including Joh (2003) on South Korea, Yeh et al. (2001) on Taiwan, and Wiwattanakantang (2001) on Thailand.

Although high ownership concentration is common among Asian corporations, the extensiveness of the cross-shareholding or pyramid structures varies across Asian economies. Although quite popular in Korea and Taiwan according to the cited studies, in Thailand almost 80 percent of the controlling shareholders do not employ cross-shareholding or pyramid structures. In addition to family, the state also controls a significant number of listed companies in several economies, such as in Singapore and predominately so in China. Unlike Japan, control by financial institutions is less common in developing Asia. Individual or institutional investors typically only hold minority portion of corporate shares.

2.a. Causes of Ownership Concentration

Why is corporate ownership so highly concentrated in Asia? Why does family ownership dominate other form of ownership? How has ownership structures evolved over time? What can we say about the future of family ownership? Most of these questions have not been adequately addressed empirically in general or for Asia specifically. The body of property rights literature to date emphasizes the roles of customs, social norms, and law and legal systems in shaping the structure of property rights and governance systems. More specifically, the literature points some considerations to the balance between public and private enforcement of property rights as affecting the degree of concentrated ownership (Eggertsson, 1990).

The argument is as follows. Both individual owners and the state can enforce property rights. In economies where the state does not effectively enforce property rights, enforcement by individual owners will be most important. The structure of share ownership itself will then affect the degree to which corporate contracts can and will be enforced because it affects owners’ abilities and incentives to enforce their rights. One prediction from this framework is that ownership that is more concentrated will be observed in economies where property rights are not well enforced by the state. Without relying on the state, controlling owners obtain the power (through high voting rights) and the incentives (through high cash flow rights) to negotiate and enforce corporate contracts with various stakeholders, including minority shareholders, managers, laborers, material suppliers, customers, debt holders, and governments. All parties involved in the corporation prefer this outcome as they share, although to different degrees, in the benefits of this concentrated ownership through better firm performance.

Using this framework, Shleifer and Vishny (1997) suggest that the benefits from concentrated ownership are relatively larger in countries that are generally less developed, where property rights are not well defined and/or not well protected by judicial systems. La Porta, et al. (1999) confirm this proposition empirically as they show that the ownership stakes of the top three shareholders of the largest listed corporations in a broad sample of countries around the world are associated with weak legal and institutional environments.

The weak state enforcement of property rights is the most probable cause of the concentrated ownership of Asian corporations as well, as they often confront weak legal systems, poor law enforcement, and corruption. Likewise, the weak property right systems in Asia may also explain why family-run business groups have been the dominant organizational forms. Family ownership and groups are institutional arrangements. They facilitate transactions, are that, the transaction costs among family members and closely affiliated corporations face a lower degree of information asymmetry and less hold-up problems that may otherwise prevail in transactions among unaffiliated parties. Another related reason for the prevalence of groups in Asia may be poorly developed external markets, both financial, managerial and other factor markets, which tends to favor internal markets for the allocation of resources.
2.b. Incentive Effects of Concentrated Ownership

The nature of a corporation’s ownership structure will affect the nature of the agency problems between managers and outside shareholders, and among shareholders. When ownership is diffuse, as is typical for U.S. and U.K. corporations, agency problems will stem from the conflicts of interest between outside shareholders and managers who own an insignificant amount of equity in the firm (Jensen and Meckling, 1976). On the other hand, when ownership is concentrated to a degree that one owner has effective control of the firm, as is typically the case in Asia, the nature of the agency problem shifts away from manager-shareholder conflicts to conflicts between the controlling owner (who is often also the manager) and minority shareholders. Below we will discuss two effects of concentrated ownership.

Entrenchment Effect. Gaining effective control of a corporation enables the controlling owner to determine not just how the company is run, but also how profits are being shared among shareholders. Although minority shareholders are entitled to the cash flow rights corresponding to their share of equity ownership, they face the uncertainty that an entrenched controlling owner may opportunistically deprive them of their rights. The entrenchment problem created by the controlling owner is similar to the managerial entrenchment problem discussed by Morck et al. (1988). Higher managerial ownership may entrench managers, as they are increasingly less subject to governance by boards of directors and to discipline by the market for corporate control. Separation between ownership rights and control rights can exacerbate the entrenchment problems raised by concentrated ownership. To consolidate control, stock pyramids or cross-shareholdings can be used, which lower the cash-flow investment needed. A controlling owner in this situation could extract wealth from the firm, receive the entire benefit, but only bear a fraction of the cost through a lower valuation of his cash-flow ownership.

Alignment Effect. If a controlling owner also increases its ownership stake, or even goes private, the entrenchment problem is mitigated. Once the controlling owner obtains effective control of the firm, any increase in voting rights does not further entrench the controlling owner. Higher cash flow ownership, however, means that it will cost the controlling shareholder more to divert the firm’s cash flows for private gain. High cash-flow ownership can also serve as a credible commitment that the controlling owner will not expropriate minority shareholders (Gomes, 2000). The commitment is credible because minority shareholders know that if the controlling owner unexpectedly extracts more private benefits, they will discount the stock price accordingly and the majority owner’s share value will be reduced as well. In equilibrium, the majority shareholder that holds a large ownership stake will see a higher stock price of the company. Thus, increasing a controlling owner’s cash-flow rights improves the alignment of interests between the controlling owner and the minority shareholders and reduces the effects of entrenchment. The aim of this research is to test the effect of ownership structure into capital structure and firm performance. The previous researches give evidences that construct some hypotheses below:

2.c. External Block Ownership and Capital Structure

The literature concerning the role of block shareholders strongly suggests that external block holders have incentives to monitor and influence management appropriately to protect their significant investments (Friend and Lang 1988). Due to their large economic stake, these investors have a strong desire to watch over management closely, making sure that management does not engage in activities that are detrimental to the wealth of shareholders. According to the ‘active monitoring hypothesis’, external block holders reduce the scope of managerial opportunism that results in lower direct agency conflicts between management and shareholders (Shleifer and Vishny 1986). Shome and Singh (1995) obtain evidence
that is consistent with the active monitoring hypothesis. They examine the market reaction to the announcement of acquisitions of large share parcels using event study methodology. Shome and Singh (1995) report significant positive abnormal returns associated with announcements of block acquisitions by external shareholders. Moreover, they show that the abnormal returns are positively associated with a reduction in agency costs (through proxy variables). Furthermore, Bethel et al. (1998) find that long term operating performance of firms improves subsequent to the acquisition of a block by activist shareholders.

This above evidence is consistent with the reduction in agency conflicts when there are increases in external block holdings. Consequently, if external block holders serve as active monitors and closely monitor the actions of corporate managers, management may not be able to adjust the debt ratio to their own interests as freely if such investors do not exist.

Since the economic stake of block holder’s increase as their share ownership rises, the incentives of block holders to protect their investments and consequently monitor management can be expected to increase with the level of their share ownership. Moreover, as the share ownership of external block holders increase, their voting power and influence increase, giving them greater ability to control the actions of managers. As corporate debt acts as an internal control on management it is proposed here that corporate debt ratios are likely to be an increasing function of the level of share ownership of external block holders.

This leads to the first hypothesis:

**H1:** Firms with a higher level of external block holdings are likely to have a higher debt ratio, ceteris paribus.

Shleifer and Vishny’s (1986) active monitoring hypothesis, however, has been challenged by Pound (1988) who argues that large shareholders may be passive voters who collude with corporate insiders against the best interests of dispersed shareholders. Evidence consistent with this ‘passive voters hypothesis’ is presented by McConnell and Servaes (1990) in relation to large shareholders and firm value. If this hypothesis more accurately describes the organizational role of external block holders, corporate leverage may be negatively related to the share ownership of such block holders. This study therefore can also be seen as conducting an empirical test of two opposing hypotheses concerning the role that external block holders play in influencing corporate capital structure in East Asian companies’ context.

### 2.d. Managerial Share Ownership and Financing Decision

Jensen and Meckling (1976), Fama and Jensen (1983) and Shleifer and Vishny (1986), among others, have suggested that the structure of equity ownership has an important effect on managerial incentives and firm value. The literature initially assumes that most investors will prefer to invest in a well-diversified portfolio to minimize portfolio risk. Since the liabilities of a firm’s shareholders are limited to their share ownership, risks can be diversified with other investments. However, corporate managers are unable to achieve the same minimum level of aggregate risk as a large proportion of their wealth is derived from the significant investment in human capital specific to the firm. Unlike financial capital, the risks associated with human capital are largely un-diversifiable (Amihud and Lev, 1981). These non-diversifiable risks result in a welfare reduction (Crutchley and Hansen, 1989). This loss of diversification is particularly costly to corporate managers due to their personal wealth constraints.

Since risk-averse managers bear an unavoidable burden of risk linked to the fortunes of the firm employing them, managerial self-interest advocates argue that once presented with opportunities, managers have incentives to lower the non-diversifiable employment risks by ensuring the continued viability of the firm (Amihud and Lev, 1981). This is known as the ‘managerial self-interests hypothesis.’

Corporate debt policy has also been viewed as an internal control mechanism, which can reduce agency conflicts between management and shareholders, particularly the agency costs of free cash flow as suggested by Jensen (1986). Jensen argues that managers with substantial amounts of
free cash flow are more likely to engage in non-optimal activities. Grossman and Hart (1980) suggest that debt is a disciplinary device that can be used to reduce the agency costs of free cash flow. Specifically, the obligations associated with debt reduce management’s discretionary control over the firm’s free cash flow and their incentives to engage in non-optimal activities. However as Myers (1977) demonstrates, debt can also have undesirable effects such as inducing managers to forego positive net present value projects.

Jensen and Meckling (1976) argue that managerial share ownership can reduce managerial incentives to consume perquisites, expropriate shareholders’ wealth and to engage in other non-maximizing behavior and thereby helps in aligning the interests between management and shareholders. This is the ‘convergence-of-interests’ hypothesis.

Fama and Jensen (1983) and Demsetz (1983) who suggest that managerial share ownership may have adverse effects on agency conflicts between management and shareholders due to the costs of significant managerial share ownership have challenged the convergence of interest hypothesis. They argue that instead of reducing managerial incentive problems, managerial share ownership may entrench the incumbent management team, leading to an increase in managerial opportunism.

The combination of the convergence of interests and entrenchment hypotheses suggest a curvilinear relationship between managerial share ownership and corporate value. Studies such as Morck et al (1988), McConnell and Servaes (1990) and McConnell and Servaes (1995) find a non-linear relationship between managerial share ownership and firm value. These studies suggest that at low levels of managerial share ownership, managerial share ownership increases firm value due to the convergence-of-interests effect. However, when the level of management ownership is high, entrenchment sets in, leading to higher agency conflicts and a consequent decline in the value of the firm. Morck et al (1988) using US data find a positive relation between management ownership and firm value (as measured by Tobin’s Q) in the 0% to 5% ownership range and beyond the 25% ownership range. McConnell and Servaes (1990), also using US data, find a positive relation between managerial share ownership and firm value but in the management ownership range of 0% to 40-50%.

Short and Keasey (1999) provide support for the curvilinear effects but find that management in the United Kingdom become entrenched at higher levels of ownership than their United States counterparts. Kole (1995) argues that the variation in results in the United States may be driven by a size effect whereas Short and Keasey (1999) argue that governance mechanisms in the different countries may be a contributing factor in explaining the differences. Despite the possible connection between managerial share ownership and external block ownership in mitigating agency conflicts, prior studies have generally only examined the effect of either managerial share ownership or external block ownership on agency conflicts (and firm value) separately.

The above evidence demonstrates a link between managerial share ownership and firm value. Despite the irrelevance theory of Modigliani and Miller’s (1958), the existence of market imperfections suggest a link between capital structure and firm value. Indeed, numerous studies confirm such a link. For instance McConnell and Servaes (1995) provide evidence that for firms with few growth opportunities; firm value (as measured by Tobin’s Q) is positively correlated with leverage and for firms with high growth opportunities Q is negatively correlated with leverage. Hence, it is reasonable to argue that a link also exists between managerial share ownership and capital structure.

The convergence of interests and entrenchment hypotheses can be applied to other agency conflicts between managers and shareholders. Berger et al. (1997) in a study of CEO compensation and firm debt levels find that entrenched managers seek to avoid debt. This implies that the financing decisions of the firm may be influenced by the share ownership of
corporate managers. Empirical support for the general notion that the capital structure decision is agency related is also provided by Johnson (1997) who reports that monitoring effects are influential in the debt decision and in the decision between public and private debt sources.

Using the rationale behind the convergence-of-interests and entrenchment hypotheses, this study argues that the relationship between managerial share ownership and debt ratio may also be curvilinear. Specifically, at low levels of managerial share ownership, managerial share ownership is likely to align management and shareholder interests, leading to increased debt levels. However, when managers already hold a significant portion of the firm’s equity, an increase in managerial share ownership may lead to managerial entrenchment. In general, when the level of managerial share ownership is “too high,” there will be few constraints on managerial behavior, leading to an increase in managerial opportunism and decreased debt levels. Thus, it is predicted that the relationship between managerial share ownership and agency conflicts is curvilinear with the effects of managerial opportunism first decreasing, and then increasing as managerial share ownership rises.

This leads to the second hypothesis:

\[ H_2: \text{At low levels of managerial share ownership, managerial share ownership is positively related to a firm's debt ratio, ceteris paribus, and at high levels of managerial share ownership, managerial share ownership is negatively related to a firm's debt ratio, ceteris paribus, such that the expected relationship between management ownership and the leverage ratio is curvilinear.} \]

Friend and Lang (1988) test the effect of non-managerial block holders on leverage and find that the presence of such shareholders increases the debt level. They define non-managerial block holders as investors who hold more than 10% or more of the firm’s outstanding shares. However, in their analysis, the level of managerial share ownership does not play a role. Their analysis makes no direct predictions as to whether the relationship between external block ownership and the debt ratio varies with the level of managerial share ownership. No study has attempted to investigate the relationship between external block ownership, managerial share ownership and debt levels simultaneously. A possible exception is McConnell and Servaes (1995) who include institutional ownership, managerial share ownership and leverage in the one model but their focus is on firm value and not leverage per se.

It is argued here that at low levels of managerial share ownership, external block ownership plays a significant role in monitoring the behavior of management, resulting in lower managerial opportunism. With low levels of managerial share ownership managers have limited voting power and influence, while external block holders have the ability to monitor and restrict managerial opportunistic behavior, therefore mitigating agency conflicts. Consequently, both external block ownership and managerial share ownership have a positive effect on the managerial incentive problems. In particular, both factors are hypothesized to be able to reduce managerial opportunistic behavior, such that external block ownership has a complementary effect at low levels of managerial share ownership.

This leads to the third hypothesis:

\[ H_3: \text{At low levels of managerial share ownership, the level of external block ownership is positively related to the firm's debt ratio, ceteris paribus. At high levels of managerial share ownership, the monitoring effect of external block ownership is offset by the entrenchment effect arising from high managerial share ownership. Thus, the effectiveness of external block ownership on managerial opportunism may be significantly reduced. With managers having effective control, external block holders may not have the ability to prevent self-interested managers from indulging in non-maximizing behavior. As a result, external block ownership and managerial share ownership work in opposite directions at high levels of managerial share ownership.} \]
If the entrenchment effect of managerial share ownership exceeds the monitoring effect of external block ownership, the significance of the relationship between external block ownership and leverage will be reduced. The extent of the reduction depends on the magnitude of the entrenchment effect. At the extreme, if the entrenchment effect dominates the monitoring effect, the relationship between external block ownership and leverage will be ineffective. Due to the confounding influences, it is not possible, a priori, to predict the specific relationship between external block ownership and leverage at high levels of managerial share ownership. However, what is known is that the relationship between external block ownership and leverage at high levels of managerial share ownership will not be as significant as compared to low levels of managerial share ownership.

This leads to the fourth hypothesis: 

**H4:** At high levels of managerial share ownership, the association between external block ownership and the firm’s debt ratio is less significant than at low levels of managerial share ownership, ceteris paribus.

The possibility of different research findings in this study from previous research is inevitable. The referenced researches are studies that are mostly conducted with the data and context pre-crisis period. It is believed to be very different after the crisis period. Mitton (2002) reports in a sample of 398 firms from Indonesia, Korea, Malaysia, the Philippines, and Thailand, that firm-level differences in variables related to corporate governance had a strong impact on firm performance during the East Asian financial crisis of 1997 - 1998. His research shows that significantly better stock performance is associated with firms that had higher outside ownership concentration. The results suggest that individual firms have some power to preclude expropriation on minority shareholders if legal protection is inadequate. However, in this study the research time period is concentrated on the year 2000 - 2001. Hoping with this time frame there are many aspects that are able to reveal the effect of the crisis and it will eliminate problems that are probable to disturb the essence of this study.

**DATA AND MODEL SPECIFICATION**

In order to investigate the relationship between the structure of equity ownership and corporate financing policies, a range of data are needed. The countries studied in this study are Indonesia, South Korea, Malaysia, the Philippines, and Thailand, the five countries that were most involved in the East Asian Financial crisis. Although other East Asian countries (and other emerging markets outside Asia) were affected by the crisis, the five considered here suffered disproportionately in terms of stock market decline and currency depreciation (see Table 2).

<table>
<thead>
<tr>
<th>Crisis Statistics</th>
<th>All Countries</th>
<th>Indonesia</th>
<th>South Korea</th>
<th>Malaysia</th>
<th>Philippines</th>
<th>Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crisis-period stock return of sample firms</td>
<td>-68.7%</td>
<td>-73.6%</td>
<td>-67.1%</td>
<td>-79.0%</td>
<td>-58.3%</td>
<td>-52.1%</td>
</tr>
<tr>
<td>(Median)</td>
<td>-79.2%</td>
<td>-84.5%</td>
<td>-74.2%</td>
<td>-87.0%</td>
<td>-63.4%</td>
<td>-57.9%</td>
</tr>
<tr>
<td>Crisis period currency depreciation</td>
<td>-78.0%</td>
<td>-34.5%</td>
<td>-39.8%</td>
<td>-39.8%</td>
<td>-41.1%</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Mitton (2001)
Therefore, for the companies included in this research sample, it is set some criteria, as follows:

(a) each firm must have financial data reported in the Worldscope database, which is the primary data source used in this study,
(b) the primary business segment of each firm must not be in financial services, that is, not in standard industrial classification (SIC) 6000 – 6999,
(c) each firm must be identified in Worldscope as being included in the International Finance Corporation (IFC) global index. The IFC includes firms in the global index only if they are among the largest and liquid firms in a given market.

The sample selection process is outlined in Table 3. The final sample consists of 481 firms from the five crisis countries. In general, the sample is representative of larger firms that trade on the major stock exchange of each country. Small listed firms and other unlisted firms, including large multinationals with no local listing (which can make significant contributions to GDP) are not represented in the sample. Table 3 shows that Korea has the most firms in the sample, with 232, and the Philippines have the fewest, with 25. The median size of firms, in terms of total assets, also varies, with Korea having the largest (a median size of over $248.1 million) and Indonesia is the smallest (a median size of over $94.24 million). The average proportion of firms’ capital structure, in terms of debt ratio, also varies, with Indonesia having the largest (an average size of over $70.06%) and Malaysia is the smallest (an average size of over $43.76%)

The reason for choosing the time horizon 2000 - 2001 is mainly that the period of post-2000 is believed as the period of recovery of the crisis. The research chooses to 2-years observation due to the fact and intention to portrait the post Asian financial crisis environment. In addition, the 2-years observation is hoped to be able to give enough information of the relationship between ownership structure and firm performance at the time of emerging East Asian Capital Market.

The research considers the population of the study to be all non-regulated firms where the companies involved are listed on the stock market within one of East Asian Capital Market, such as Jakarta Stock Exchange (JSX – Indonesia), SET (Bangkok - Thailand), KLSE (Kuala Lumpur - Malaysia), SSE (Seoul - Korea), and PSE (Manila - Philippines), and the time period chosen. For each sample firm, the following items are collected:

(a) the share ownership of the top two, top five and all directors. This includes both executive and non-executive directors;
(b) the share ownership of the top 10 largest shareholders; and
(c) the distribution of shareholders and their holdings.

The sources that have been used to find the required data are Thomson One Banker, Worldscope, and DataStream.

Table 3 : Sample Selection Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Initial sample (companies, which are listed in JSX (Jakarta), SET (Bangkok), KLSE (Kuala Lumpur), SSE (Seoul), and PSE (Manila) during 2000 – 2001, have passed the SIC screen)</td>
</tr>
<tr>
<td>2.</td>
<td>Removed from the sample because an incomplete data, such as intangible assets and external block holders</td>
</tr>
<tr>
<td>3.</td>
<td>Final sample</td>
</tr>
</tbody>
</table>

In Table 4, it is presented summarily the transaction characteristics. It includes some important characteristics, such as financial statistics (total assets and debt ratio), ownership structures (external block ownership and managerial ownership), and sample inclusion.
The study carries out a multivariate regression to assess the relationship between the structure of equity ownership and corporate financing policies and adopts the model developed by Brailsford et al. (2002). The dependent variable is the debt/equity ratio (D/E), and is defined as the natural logarithm of the ratio of the book value of debt to market value of equity. Equity is defined as market value of equity. Book value of debt is used as a proxy for market value of debt due to problems in estimating market values of unlisted debt securities. Many studies have used book value of debt in measuring leverage (as examples see Friend and Lang 1988 and Titman and Wessels 1988). Bowman (1980) argues that even if the market value of debt is a more accurate measure of leverage, the use of book value of debt is not expected to distort leverage ratios. The natural log transformation of D/E is used to mitigate possible problems with the sample distribution of the ratio.

Six sets of explanatory variables are included in an attempt to capture different effects, a slightly modified of Brailsford et al. (2002) model. The first set of explanatory variables comprises the ownership variables. Since a firm’s capital structure is likely to be affected by many factors other than the allocation of equity ownership, the remaining four sets of variables are included in an attempt to control for these other effects. These variables are used to “isolate” the effects of the equity ownership on capital structure and include risk (two variables), agency cost (three variables), asset specificity (one variable) and tax (one variables).

**1. Model I**

Since the underlying hypothesis is that capital structure is a function of the distribution of equity ownership among managers and external block holders, the firm’s debt to equity ratio is regressed on various measures of ownership structure (and other control) variables. The first hypothesis proposes that firms with higher levels of external block holdings will have higher leverage. This hypothesis is tested by regressing the dependent variable, ln (D/E) against the external block ownership (EBO) and control variables:

\[
\text{Ln (D/E)}_{it} = \alpha_0 + \beta_0 \text{EBO}_{it} + \beta_1 \text{SIZE}_{it} + \beta_2 \text{IND}_{it} + \beta_3 \text{GROWTH}_{it} + \beta_4 \text{PROF}_{it} + \beta_5 \text{FCF}_{it} + \beta_6 \text{INTA} + \beta_7 \text{NDTS} + e_{it}
\]  

where:

- \( e_{it} \) = the \( i \)-th firm in period \( t \)
- Ln = natural log transformation of Debt/Equity ratio
- EBO = percentage of ordinary shares held by the larger shareholders.

Data for the top two, five, and 20 external shareholders are used as the proxy for external block ownership.
Friend and Lang (1988) use a dummy variable to represent the existence of external block shareholders with a holding of 10% or more of a firm’s outstanding stock. This study extends Friend and Lang (1988) by using the proportion of outstanding shares owned by external block holders.

The two variables used to control for risk are:

\[ \text{SIZE} = \text{natural log (total assets)} \]

Many studies suggest that firm size is one important factor, which affects a firm’s debt policy and therefore risk (Scott and Martin 1975, Ferri and Jones 1979, Agrawal and Nagarajan 1990).

\[ \text{IND} = \text{zero-one dummy variable for industry classification, where IND = 1 if industrial company and IND = 0 if natural resources company.} \]

A more detailed industrial classification is not used because the increase in the number of dummy variables imposes too severe restriction on the degrees of freedom in the regression. It is argued that industry class is a potential determinant of capital structure because firms, in the same industry, face similar demand and supply conditions, and thus have similar risk characteristics (Scott and Martin 1975, Ferri and Jones 1979).

The three variables used to control for agency costs are:

\[ \text{GROWTH} = \text{the annual percentage change in total assets}. \]

Titman and Wessels (1988) suggest that a firm’s growth opportunities are a good proxy for the agency costs of debt. They suggest that the tendency to invest sub-optimally to expropriate wealth from a firm’s debt holders is likely to be higher for firms in growing industries. On the other hand, growth may also be an indicator of profitability and success of the firm. If this is the case, GROWTH will be a proxy for available internal funds.

\[ \text{FCF is a direct measure of Jensen’s (1986) free cash flow hypothesis.} \]

The free cash flow hypothesis states that managers endowed with excessive free cash flows will invest sub-optimally rather than paying the free cash flow out to shareholders. Jensen (1986) predicts that firms with excessive free cash flow are likely to have higher leverage. FCF is defined in a similar manner to Lehn and Poole (1989).

\[ \text{PROF} = \text{operating income before interest and taxes scaled by total assets.} \]

Indicators of a firm’s profitability include ratios of operating income over sales and operating income over total assets (Titman and Wessels 1988) and ratios of average earnings before interest and taxes over total assets (Wald 1995).

The variable used to control for asset specificity is:

\[ \text{INTA} = \text{Total Intangibles divided by Total Assets}. \]

Balakrishnan and Fox (1993) argue that asset specificity creates problems for debt financing due to the non-redeploy ability characteristics of specific assets. More specifically, asset specificity adversely affects a firm’s ability to borrow. Balakrishnan and Fox (1993) suggest that examples of firm-specific assets are intangible assets such as brand names, research and development expenditure and other reputational investments.

The last explanatory variable is used to control for the effect of taxes:

\[ \text{NDTS} = \text{Annual Depreciation Expense divided by Total Assets}. \]

NDTS variable is used to capture the non-debt tax shield's argument put forward by DeAngelo and Masulis (1980). They argue that the greater the level of non-debt tax shields, the lower is the benefit of additional debt. Thus, all else equal, firms with higher non-debt tax shields are expected to receive lower tax benefits from issuing debt and therefore will utilize less debt.

2. Model II

To test for the hypothesized curvilinear relationship between managerial share ownership and capital structure as proposed by Brailsford et al. (2002), the managerial share ownership variable and the square of managerial share ownership variable is augmented to the regression model:

\[
\text{Ln (D/E)}_{it} = \alpha_0 + \beta_0 \text{MSO}_it + \beta_1 (\text{MSO})^2_{it} + \\
\beta_2 \text{SIZE}_{it} + \beta_3 \text{IND}_{it} + \beta_4 \text{GROWTH}_{it} + \beta_5 \text{PROF}_{it} + \beta_6 \text{FCF}_{it} + \beta_7 \text{INTA} + \beta_8 \text{NDTS} + e_{it} \tag{2}
\]
where:

\[ MSO = \text{percentage of ordinary shares owned by all executive and non-executive directors.} \]

Share ownership of corporate directors are used by Morck et al. (1988) and Keasey et al. (1994), amongst others to proxy for managerial share ownership.

Other variables are as previously described in Model I.

3. Model III

Finally, a joint test is used to investigate the third and fourth hypotheses, which explore the relationship between external block ownership and leverage at different levels of managerial share ownership. Specifically, the third hypothesis predicts that external block ownership and debt are positively related when the level of managerial share ownership is low. The fourth hypothesis predicts that at high levels of managerial share ownership, the association between external block ownership and the firm’s debt ratio is less significant than at low levels of managerial share ownership, since the positive monitoring effect of external block ownership is offset by the negative entrenchment effect associated with managerial share ownership.

To test these two hypotheses, a dummy variable \( D \), denoting different levels of managerial share ownership is employed. \( D \) takes the value of 0 if the level of managerial share ownership is less than 20%. When managerial share ownership is 20% or more \( D \) takes the value of 1. While there is generally little theoretical justification for the particular cut-off, the 20% level has been used in several previous studies (Brailsford et al., 2002). For example, Hermalin and Weisbach (1991) find that the entrenchment effect of managerial share ownership sets in after 20% of managerial share ownership.

The natural log of \( D/E \) is then regressed against \( MSO \), \( MSO^2 \), \( EBO \), \( D*EBO \) and the control variables:

\[
\ln (D/E)_{it} = \alpha_0 + \beta_0 MSO_{it} + \beta_1 (MSO)_{it}^2 + \beta_2 EBO_{it} + \beta_3 (D*EBO)_{it} + \beta_4 SIZE_{it} + \beta_5 IND_{it} + \beta_6 GROWTH_{it} + \beta_7 PROF_{it} + \beta_8 FCF_{it} + \beta_9 INTA + \beta_{10} NDTS + \epsilon_{it}
\]

The coefficient on the \( EBO \) variable reflects the relation between external block ownership and the debt level when the level of managerial share ownership is low.

The coefficient on the \( D*EBO \) variable then reflects the difference in the external block ownership and leverage relationship between high and low levels of managerial share ownership.

In order to infer the relationship between external block ownership and leverage at high levels of managerial share ownership, the coefficient \( \beta_2 \) is added to the coefficient \( \beta_3 \). In other words, the sum of \( \beta_2 \) and \( \beta_3 \) gives the slope for the relationship between external block ownership and leverage when the level of managerial share ownership is high.

RESULT AND ANALYSIS

1. The effect of external block ownership on capital structure

In general, all control variables, except External Block Ownership (EBO), Size, and Industry, are positively skewed. Correlation analysis (Table 5) shows that some explanatory variables are significantly correlated.

First, there is significant negative correlation between the SIZE and FCF variables (-0.195), even though the correlation is quite small. This may be quite surprising since larger firms normally are expected to have higher free cash flow. Free cash flows have been identified in the literature as being in evidence in large, diversified firms (Berger and Ofek 1995, Smith and Kim 1994). However, by considering the effect of financial crisis on East Asia firms’ asset and the ability to generate free cash flow, this phenomena at least can explain this effect.
The SIZE and MSO variables are also negatively correlated significantly (-0.158). This statistic confirms the wealth constraint argument, which suggests that the personal wealth constraint of corporate insiders is one important barrier to managerial share ownership. Specifically, as the size of the firm increases, it becomes more costly for managers to purchase a larger percentage of shares. A significant negative correlation between GROWTH and EBO (-0.161) is also found. This implies that the existence of external block holders reduces the firms’ opportunity to use profit or earnings as retained earnings or expanding funds. A significantly negative correlation between INDUSTRY and NDTS (-0.141) suggests that certain industries do not use annual depreciation expense as a mode to receive lower tax benefits and it could also explain the fiscal policy in East Asian countries on non-debt tax shield policy. Finally, PROF and NDTS also have a significant positive correlation (0.135) which implies that profitable firms are more likely to allocate its earnings to get free cash flow in form of annual depreciation expense.

In order to test whether the external block ownership affect companies’ capital structure, the study run a multivariate regression model that puts firm’s debt to equity ratio as dependent variable. Table 6 presents the regression results for the external block ownership test (that is, Model I). As can be seen from this table, there is supportive evidence of a positive relation between external block ownership and leverage. The coefficient on the EBO variable is positive and statistically significant (t = 2.799).

This positive relation is consistent with the active monitoring hypothesis that suggests that large shareholders have greater incentives to monitor management due to their significant investment in the firm. The increased monitoring by external block holders decreases managerial opportunism, leading to lower agency conflicts. The results obtained are also consistent with those of Friend and Lang (1988) who obtain evidence that firms with large non-managerial investors have significantly higher average debt ratios than those without external block holders. It does not support the passive voting hypothesis (Pound, 1988) which suggests that large shareholders vote with management without due regard to the interests of dispersed shareholders.

The overall regression explains approximately 20% of the variation in the dependent variable. Consistent with the size argument, the SIZE variable in the regression has a significant positive coefficient (t-statistic = 6.358), suggesting that larger firms have higher leverage. This is consistent with Scott and Martin (1975) and Ferri and Jones (1979) and empirical evidence obtained by Agrawal and Nagarajan (1990).

### Table 6: Coefficient Correlation

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>MSO</th>
<th>MSO2</th>
<th>EBO</th>
<th>D(EBO)</th>
<th>SIZE</th>
<th>Industry</th>
<th>Growth</th>
<th>PROF</th>
<th>FCF</th>
<th>INTA</th>
<th>NDT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSO</td>
<td>1.00</td>
<td>.92</td>
<td>-.479</td>
<td>.846</td>
<td>-.158</td>
<td>.037</td>
<td>.045</td>
<td>.042</td>
<td>.045</td>
<td>-.082</td>
<td>.001</td>
</tr>
<tr>
<td>MSO2</td>
<td>.920</td>
<td>1.00</td>
<td>-.371</td>
<td>.755</td>
<td>-.101</td>
<td>.016</td>
<td>.023</td>
<td>.041</td>
<td>.035</td>
<td>-.055</td>
<td>.028</td>
</tr>
<tr>
<td>EBO</td>
<td>-.479</td>
<td>-.371</td>
<td>1.000</td>
<td>-.355</td>
<td>.055</td>
<td>-.053</td>
<td>-.161</td>
<td>-.112</td>
<td>.017</td>
<td>.065</td>
<td>-.026</td>
</tr>
<tr>
<td>D(EBO)</td>
<td>.846</td>
<td>.755</td>
<td>-.355</td>
<td>1.000</td>
<td>-.157</td>
<td>.001</td>
<td>-.012</td>
<td>-.015</td>
<td>.032</td>
<td>-.077</td>
<td>.000</td>
</tr>
<tr>
<td>SIZE</td>
<td>-.158</td>
<td>-.101</td>
<td>.055</td>
<td>-.157</td>
<td>1.000</td>
<td>-.045</td>
<td>-.047</td>
<td>-.006</td>
<td>-.195</td>
<td>.033</td>
<td>.005</td>
</tr>
<tr>
<td>Industry</td>
<td>.037</td>
<td>.016</td>
<td>-.053</td>
<td>.001</td>
<td>-.045</td>
<td>1.000</td>
<td>.065</td>
<td>-.071</td>
<td>.028</td>
<td>-.066</td>
<td>-.141</td>
</tr>
<tr>
<td>Growth</td>
<td>.045</td>
<td>.023</td>
<td>-.161</td>
<td>-.012</td>
<td>-.047</td>
<td>.065</td>
<td>1.000</td>
<td>.089</td>
<td>-.037</td>
<td>.014</td>
<td>-.030</td>
</tr>
<tr>
<td>PROF</td>
<td>.042</td>
<td>.041</td>
<td>-.112</td>
<td>-.015</td>
<td>-.006</td>
<td>-.071</td>
<td>.089</td>
<td>1.000</td>
<td>-.023</td>
<td>.003</td>
<td>.135</td>
</tr>
<tr>
<td>FCF</td>
<td>.045</td>
<td>.035</td>
<td>.017</td>
<td>.032</td>
<td>-.195</td>
<td>.028</td>
<td>-.037</td>
<td>-.023</td>
<td>1.000</td>
<td>.026</td>
<td>-.087</td>
</tr>
<tr>
<td>INTA</td>
<td>-.082</td>
<td>-.055</td>
<td>.065</td>
<td>-.077</td>
<td>.033</td>
<td>.066</td>
<td>.014</td>
<td>.003</td>
<td>.026</td>
<td>1.000</td>
<td>.049</td>
</tr>
<tr>
<td>NDT</td>
<td>.001</td>
<td>.028</td>
<td>-.026</td>
<td>.000</td>
<td>.005</td>
<td>-.141</td>
<td>-.030</td>
<td>.135</td>
<td>-.087</td>
<td>.049</td>
<td>1.000</td>
</tr>
</tbody>
</table>

** Significant at the 0.01 level (2-tailed)
* Significant at the 0.05 level (2-tailed)
Table 6: The Effect Of External Block Ownership On Capital Structure (Model I)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T-Statistic</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.277</td>
<td>-8.970</td>
<td>.000</td>
</tr>
<tr>
<td>EBO</td>
<td>.609</td>
<td>2.799</td>
<td>.005</td>
</tr>
<tr>
<td>SIZE</td>
<td>.233</td>
<td>6.358</td>
<td>.000</td>
</tr>
<tr>
<td>Industry</td>
<td>-.266</td>
<td>-2.412</td>
<td>.016</td>
</tr>
<tr>
<td>GrowthTA</td>
<td>-.002</td>
<td>-1.925**</td>
<td>.055</td>
</tr>
<tr>
<td>PROF</td>
<td>-2.801</td>
<td>-6.333</td>
<td>.000</td>
</tr>
<tr>
<td>FCF</td>
<td>4.69E-005</td>
<td>.250</td>
<td>.802</td>
</tr>
<tr>
<td>INTA</td>
<td>.240</td>
<td>.332</td>
<td>.740</td>
</tr>
<tr>
<td>NDTs</td>
<td>-2.434</td>
<td>-1.281</td>
<td>.201</td>
</tr>
</tbody>
</table>

Model F value = 14.71 (4.88*)
Adjusted R² = 0.200

* = significant at α level = 1% (t>2.575 or t<-2.575)
** = significant at α level = 5% (t>1.959 or t<-1.959)
*** = significant at α level = 10% (t>1.644 or t<-1.644)

The significant negative coefficient on PROF (t-statistic = -6.333) is consistent with the pecking order hypothesis of Myers (1977) and Myers and Majluf (1984), and the empirical results of Titman and Wessels (1988), Friend and Lang (1988), Chiarella et al (1992), Allen (1993) and Wald (1995). The “pecking order” hypothesis suggests that profitable firms will demand less debt because internal funds are available for financing projects.

The IND variable which proxies for firm risk has a positive and significant coefficient (t-statistic = -2.412). This is consistent with Scott and Martin (1975) and Bradley et al. (1984). It also suggests that resource companies have higher leverage than industrial companies in term of East Asian companies’ characteristic that mainly operate in exploiting natural resources.

The coefficient on the GROWTH variable is negative and marginally significant (t-statistic = -1.925). This is consistent with Bradley et al. (1984) and Titman and Wessels (1988) who obtain a significant negative relationship between growth opportunities and firm’s leverage.

The coefficient on the NDTS variable is not significant. This supports the tax neutrality of capital structure under an imputation tax system.

2. The effect of managerial share ownership on financing decision

The next stage of analysis involves testing the curvilinear relationship as proposed in the second hypothesis. Table 7 contains the regression results of the curvilinear model where ln (D/E) is regressed against managerial share ownership (MSO), the square of managerial share ownership (MSO²) and control variables. The coefficient on MSO is positive but insignificant. The coefficient on MSO² is negative and insignificant. These results support the second hypothesis.

Table 7: The Effect Of Managerial Share Ownership On Financing Decision (Model II)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T-Statistic</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.010</td>
<td>-8.026</td>
<td>.000</td>
</tr>
<tr>
<td>MSO</td>
<td>.565</td>
<td>.538</td>
<td>.591</td>
</tr>
<tr>
<td>MSO²</td>
<td>-1.787</td>
<td>-.744</td>
<td>.458</td>
</tr>
<tr>
<td>SIZE</td>
<td>.238</td>
<td>6.356*</td>
<td>.000</td>
</tr>
<tr>
<td>Industry</td>
<td>-.286</td>
<td>-2.564**</td>
<td>.011</td>
</tr>
<tr>
<td>GrowthTA</td>
<td>-.002</td>
<td>-2.360**</td>
<td>.019</td>
</tr>
<tr>
<td>PROF</td>
<td>-2.918</td>
<td>-6.568*</td>
<td>.000</td>
</tr>
<tr>
<td>FCF</td>
<td>5.75E-005</td>
<td>.304</td>
<td>.761</td>
</tr>
<tr>
<td>INTA</td>
<td>.389</td>
<td>.532</td>
<td>.595</td>
</tr>
<tr>
<td>NDTs</td>
<td>-2.487</td>
<td>-1.296</td>
<td>.196</td>
</tr>
</tbody>
</table>

Model F value = 12.076 (4.88*)
Adjusted R² = 0.187

* = significant at α level = 1% (t>2.575 or t<-2.575)
** = significant at α level = 5% (t>1.959 or t<-1.959)
*** = significant at α level = 10% (t>1.644 or t<-1.644)
The signs on MSO and MSO\(^2\) parallel the alignment of interests and entrenchment effects of managerial share ownership put forward by Jensen and Meckling (1976) and Fama and Jensen (1983) respectively. Specifically, when the level of managerial share ownership is low, an increase in managerial share ownership has the effect of aligning management and shareholders’ interests. Consequently, as managerial share ownership increases from a low level, managers have less incentive to reduce the debt level, resulting in a higher level of debt (but at a decreasing rate). However, when corporate managers hold a significant proportion of firm shares, the entrenchment effect sets in, resulting in higher managerial opportunism and therefore a lower debt ratio. In particular, with significant voting power and influence, it becomes more difficult to control managerial behavior, resulting in fewer constraints on managers’ ability to adjust debt ratios to their own self-interests.

Overall, this curvilinear regression model explains approximately 18.7\% of the variation in the dependent variable. Several of the control variables, including SIZE, IND, GROWTH, and PROF have statistically significant coefficients at either 1\% or 5\% levels. Moreover, the signs are consistent with predictions. Indeed, all coefficient signs, except FCF, are as hypothesized. The coefficient on FCF is statistically insignificant. Again, the coefficient on the tax variable is not significant.

The turning point of the quadratic relationship can be found by evaluating the first derivative and setting it to zero. This study turning point is 0.158\%. This result has practical import as it means that managerial share ownership in excess of 0.158\% impose restrictions on the amount of leverage a firm can support, on average.

3. **The relationship between external block ownership and leverage at different levels of managerial share ownership**

Previously, this study separately tested the effect of external block ownership and managerial share ownership on capital structure and found that both have a significant impact on corporate financing policies. While external block holders have a positive effect on the debt ratio, the relation between managerial share ownership and leverage is curvilinear. This implies that the debt ratio is a function of both managerial share ownership and external block ownership. Thus, this thesis now explore a model which brings together both EBO and MSO (and the control) variables.

The regression results for the joint test are presented in Table 8. The results support the third and fourth hypotheses that propose that the relationship between external block ownership and leverage at high levels of managerial share ownership differs from that at low levels of managerial share ownership.

The results of the joint model retain support for the curvilinear relationship between managerial share ownership and leverage. The coefficient on MSO (t-statistic = 2.225) is significantly positive and MSO\(^2\) (t-statistic = -1.568) is relatively quite negative significantly. The coefficient on the EBO variable tests the relationship between external block ownership and debt levels when the level of managerial share ownership is low, it is positive and significant (t-statistic = 3.339). The coefficient on the D*EBO dummy variable is less significant (with t-statistic = -1.437) which indicates that the relationship between external block ownership and leverage is relatively different at high and low levels of managerial share ownership. Specifically, the slope coefficient for the relationship between external block ownership and leverage at high levels of managerial share ownership is approximately zero (which is obtained from the summation of \(\beta_2\) and \(\beta_3\), i.e. 0.485). It is argued that the negative entrenchment effect arising from high levels of managerial share ownership is offset by the positive monitoring effect of external block holders.

Overall, the regression results support the thesis proposition that the relationship between external block ownership and leverage at low levels of managerial share ownership is different from that at high levels, due to the interaction between managerial share ownership and external block ownership.
The signs on the majority of the control variables, including SIZE, IND, GROWTH, and PROF, are consistent with our predictions and the coefficients are statistically significant. However, the negative coefficient on FCF is different from that anticipated. Further, the coefficient on the tax variable is again insignificant.

4. Sensitivity Analysis

The presence of significant correlation between some of the explanatory variables as presented in Table 5 may create a problem of multicollinearity, and consequently model misspecification. One-way of testing for the impact of multicollinearity is by dropping the explanatory variables that are highly correlated (Maddala, 1992). Hence, the highly correlated variables are removed one at a time to test the sensitivity of the results (Brailsford et al., 2002). These sensitivity analysis results can be seen in Table 9 as follows.

Table 8 : The Relationship Of External Block Ownership And Leverage At Different Levels Of Managerial Share Ownership On Financing Decision (Model III)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T-Statistic</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.561</td>
<td>-8.602</td>
<td>.000</td>
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<tr>
<td>MSO</td>
<td>3.067</td>
<td>2.225**</td>
<td>.027</td>
</tr>
<tr>
<td>MSO2</td>
<td>-3.841</td>
<td>-1.568</td>
<td>.118</td>
</tr>
<tr>
<td>EBO</td>
<td>.846</td>
<td>3.339**</td>
<td>.001</td>
</tr>
<tr>
<td>D*EBO</td>
<td>-.361</td>
<td>-1.437</td>
<td>.151</td>
</tr>
<tr>
<td>SIZE</td>
<td>.242</td>
<td>6.525*</td>
<td>.000</td>
</tr>
<tr>
<td>Industry</td>
<td>-.281</td>
<td>-2.546**</td>
<td>.011</td>
</tr>
<tr>
<td>GrowthTA</td>
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<td>-2.001**</td>
<td>.046</td>
</tr>
<tr>
<td>PROF</td>
<td>-2.838</td>
<td>-6.408**</td>
<td>.000</td>
</tr>
<tr>
<td>FCF</td>
<td>3.31E-005</td>
<td>.177</td>
<td>.860</td>
</tr>
<tr>
<td>INTA</td>
<td>.319</td>
<td>.442</td>
<td>.659</td>
</tr>
<tr>
<td>NDTS</td>
<td>-2.227</td>
<td>-1.172</td>
<td>.242</td>
</tr>
</tbody>
</table>

MODEL
F value = 11.216 (4.88*)
Adjusted R² = 0.208

* = significant at α level = 1% (t>2.575 or t< -2.575)
** = significant at α level = 5% (t>1.959 or t< -1.959)
*** = significant at α level = 10% (t>1.644 or t< -1.644)

First, the study excludes from the full model the SIZE variable that is highly correlated with the MSO, MSO², D(EBO), and FCF variables (Model I). Next, it excludes the SIZE variable and the PROF variable due to its high correlation with EBO and NDTS variables (Model II). Finally, the investigation excludes the SIZE and FCF variables along with the NDTS variable due to its high correlation with IND and PROF variables (Model III).

From Table 9, it can be seen the regression results of Models I, II, and III are quite similar to those of the joint model as presented in Table 8. In particular, the coefficient on MSO² in all three models is negative and statistically insignificant. The EBO coefficient estimate for all models is significantly positive. The coefficient on the EBO, dummy variable (IND) still is significant when SIZE, PROF, and NDTS
variables are omitted. However, the sign remains consistent across all models. All other coefficients’ significances are similar to those of the joint model, except MSO. When the SIZE variable is omitted, the coefficient on the MSO variable becomes insignificant. It can be concluded that the influence existence of managerial share ownership on leverage relates to the size of a company. The influence becomes less significant when we do not have any information about the size of a company.

5. Discussion

Generally, the multivariate regression results support the prior researches. As the study has predicted it before, the external block ownership affects companies’ capital structure in East Asia countries after the crisis. Firms with a higher level of external block holdings are likely to have a higher debt ratio, ceteris paribus, and it is statistically significant. In other words, the study accepts the hypothesis stating that a higher level of external block holdings creates a higher leverage.

In the effect of managerial share ownership on financing decision, the result has the same direction of influence with some previous studies, such as the research is done by Brailsford et al. (2002). The signs on MSO and MSO^2 parallel the alignment of interests and entrenchment effects of managerial share ownership put forward by Jensen and Meckling (1976) and Fama and Jensen (1983) respectively. Specifically, when the level of managerial share ownership is low, an increase in managerial share ownership has the effect of aligning management and shareholders’ interests. Consequently, as managerial share ownership increases from a low level, managers have less incentive to reduce the debt level, resulting in a higher level of debt (but at a decreasing rate). One thing that cannot be reached in this research is the research’s results on MSO and MSO^2 are not statistically significant.

In the relationship between external block ownership and leverage at different levels of managerial share ownership, the study indicates that the relationship between external block ownership and leverage is different at high and low levels of managerial share ownership. Specifically, the slope coefficient for the relationship between external block ownership and leverage at high levels of managerial share ownership is approximately zero. It is argued that the negative entrenchment effect arising from high levels of managerial share ownership is offset by the positive monitoring effect of external block holders. The results of the joint model also retain support for the curvilinear relationship between managerial share ownership and leverage.

Other independent variables (control variables), such as SIZE, Industry, Growth, and PROF also report the same results with the prior researches. It is interesting to analyze the effect of external block ownership and managerial share ownership on capital structure, because it reflects the way of thinking and managing of East Asian companies in responding the crisis. It shows us how they interpret, respond, and manage their companies to face the crisis and struggle to overcome it. Meanwhile, the influence of FCF and INTA is not as expected in this research.

CONCLUSION AND IMPLICATIONS

There are some conclusions derived from the study related to the relationship between ownership structure and capital structure of East Asian countries in terms of post Asian Financial crisis.

1. Does external block ownership have influence on capital structure?

When analyzing the external block ownership and its impact on capital structure, it can be concluded that leverage increases at the time of the proportion of firm’s external block ownership also increase. In other words, the empirical results suggest that the level of external block ownership is positively related to leverage.

This provides support for the active monitoring hypothesis that proposes that external block holders have greater incentives and an ability to monitor management, thereby reducing managerial opportunism that may otherwise reduce leverage to a sub-optimal level in order to reduce management’s non-diversifiable employment risk. The results of external block ownership and leverage relationship
coincide with earlier research of these fields, which suggest that positive relation is consistent with the active monitoring hypothesis. It suggests that large shareholders have greater incentives to monitor management due to their significant investment in the firm. The increased monitoring by external block holders is believed to be able to decrease managerial opportunism, leading to lower agency conflicts.

This result restates and re-emphasizes prior researches of corporate governance and any kinds related to it. It is related to this study’s contribution in giving more evidences about managers’ behavior. The results reflect managers’ intention and ability to manage optimally the companies and explain how they react on special event, such as financial crisis, based on the situation faced.

The result reveals the condition of East Asian stock market, which is emerging, and gives insights how to optimize it for the sake of corporate strategic decision and good corporate governance. At the same time, the result encourages foreign investors to enter and use their presence as external block holders in boosting the application of good corporate governance.

2. Does managerial share ownership affect on financing decision?

The results for the effect of managerial share ownership on financing decision indicate that managerial share ownership parallels with the alignment of interests and entrenchment effects of managerial share ownership put forward by Jensen and Meckling (1976) and Fama and Jensen (1983) respectively.

The results also indicate a curvilinear relationship between the level of managerial share ownership and leverage with the relationship reaching a maximum at 0.158% of management share ownership. This result parallels the convergence-of-interests and entrenchment hypotheses. In particular, at low levels of managerial share ownership, managerial share ownership has the effect of aligning shareholder and management interests. However, when managerial share ownership reaches a certain point (0.158% on average in this study sample) the entrenchment effect dominates the convergence-of-interest’s effect, leading to an increase (decrease) in managerial opportunistic behavior (debt level).

It can also explain when corporate managers hold a significant proportion of firm shares, the entrenchment effect sets in, resulting in higher managerial opportunism and therefore a lower debt ratio. In particular, with significant voting power and influence, it becomes more difficult to control managerial behavior, resulting in fewer constraints on managers’ ability to adjust debt ratios to their own self-interests.

3. Is there any relationship between external block ownership and leverage at different levels of managerial share ownership?

Furthermore, this study tries to find the relationship between external block ownership and leverage at different levels of managerial ownership. This implies that the debt ratio is a function of both managerial share ownership and external block ownership.

Specifically, it was predicted and found that at low levels of managerial share ownership, the “monitoring effect” of external block ownership is coupled with the “convergence-of-interests” effect of managerial share ownership, resulting in a positive relationship between external block ownership and leverage. However, at high levels of managerial share ownership, managerial entrenchment competes with external block holders’ monitoring such that the significance of external block ownership is substantially removed. It is argued that the negative entrenchment effect arising from high levels of managerial share ownership is offset by the positive monitoring effect of external block holders.

In a series of sensitivity tests, the thesis shows that the results are generally robust to model specification. Overall, the regression results support the thesis proposition that the relationship between external block ownership and leverage at low levels of managerial share ownership is different from that at high levels, due to the interaction between managerial share ownership and external block ownership.
4. Implications for real life

The study findings reveal no silver bullet that guarantees success on applying corporate governance. As many companies have learned from experience, investors and securities markets can be fickle, and even the most carefully crafted capital structure can meet with un-optimized performance when it is formed. Nevertheless, the study does suggest that companies can substantially improve their chances of success by pursuing to some extent control the level of managerial share ownership although control over the existence of external block holders is more difficult.

If there is one lesson to be learnt from the last crisis, it is that these corporations have become over-reliant on debt, this in part being a function of the prevailing ownership structures. One must therefore question whether firms in these countries will be able to maintain their robust patterns of recovery unless they reduce their leverage by going directly to capital markets rather than to banks.

In the global context of ownership structure and in term of East Asian companies’ special characteristics, maturing a corporate governance system (which normally uses protection of minority shareholder as the proxy) in Asia are ultimately likely to develop to address their own national, legal, and business customs. The purported importance of corporate governance, however, can be seen as requiring expedience in reform. To this end, the adoption of internationally recognized standards of good governance has been posited as an appropriate and expedient method of reforming perceived problems and offers enterprises the chance to gain a share of future investment capital. Using the benchmark provides the capacity to develop domestic institutions quicker than would otherwise be possible through self-design—the quicker the better. The adoption of the OECD Principles is a small step in this direction.

REFERENCES
Bowman, R. 1980. The importance of a market-value measurement of debt in assessing leverage. *Journal of
Accounting Research 18 (1), 242 - 254.

Kole, Stacey. 1996. Managerial ownership and firm performance: Incentives or
rewards? Advances in Financial Economics 2, 119 - 149.


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