

## PYRAMIDING EFFECT ON FIRM'S INVESTMENT DECISION AMONG MALAYSIAN DISTRESS COMPANIES

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### Abstract

It is documented by La Porta, Lopez and Shleifer (1999) that ultimate owners, around the world usually control an array of affiliated companies through hierarchical intermediary corporations forming a *Pyramidal Ownership Structure*. A direct results of this pyramidal ownership structure is divergence of cash flow rights from control rights in the hand of the largest shareholders (Claessens, Djankov and Lang 2000). This paper investigate the impact of this separation of cash flow rights from control rights resulting from this pyramidal forms of ownership structure on firm's investment decisions. In particular, our objective is to examine whether such separation affects the investment decisions among Malaysian listed distress Companies. Our findings lends support to the *over investment* problem, where by the separation of cash flow rights and control rights have lead to the increase of inefficient investment among the distress companies. The main source of financing for this inefficient investment activity is the firm's retained earnings. Consequently, the exploitation of such firm's resources in order to finance this inefficient investment activities of the ultimate owner's then lead to negative market valuation.

**Keywords:** corporate control, ownership, pyramidal structures

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### Introduction

It is documented by La Porta, Lopez and Shleifer (1999) that ultimate owners, around the world usually control an array of affiliated companies through hierarchical intermediary corporations forming a pyramid holding. In this study, following the definition of Attig, Fischer and Gadhoum (2004) a pyramid holding is an entity (ie. group of companies) whose ownership structure displays a top-down chain of control starting with an ultimate owner (at the apex) with successive lower layers of firms

A direct result of this pyramidal ownership structure is divergence of cash flow rights from control rights in the hand of the largest shareholders (Claessens, Djankov and lang 2000). This paper investigates the impact of this separation of cash flow rights from control rights resulting from this pyramidal form of ownership structure on firm's investment decision. In particular, our objective is to examine whether such separation affects the

investment decisions among Malaysian listed distress companies.<sup>23</sup>

It was noted in Gupta (2002), Saxena and Wong (2002) that one of the distinguished characteristics of the Asian firms including Malaysian firms is that they had excessive investment level that produce inferior return. They then postulate that, it is this excessive investment problem as a probable cause for these firms financially distress performance. The significant numbers of failing firms ultimately trigger the Asian financial crisis (Driffield, Mahambare and Pal 2005). This study would try to investigate if such mismanagement of the investment policy among the companies particularly Malaysian firms is due to the separation of cash flow rights from ownership rights.

<sup>23</sup> Listed distress firms are those institutions that have failed to comply with the obligations set under Malaysian practice note that causes them to be de-listed/ suspended from trading. Among the commonly violated provision on this practice note is - deficit in the adjusted shareholder' equity of the listed issuer on a consolidated basis. See Fauzias and Ruzita (2004) for more examples of practice note violations.

Claessens et.al (1999, 2002) analyzes a sample of East Asian firms and have found that most of the East Asian firms display a high degree of separation cash flow rights from control rights in the hand of largest shareholders as a result of the pyramid structure of ownership. Consequently, this separation of cash flow and control rights, exert a direct negative impact on Asian firms corporation valuation. However both of these studies did not empirically identify, which channel does the divergence of cash flow rights from control rights affect firm's valuation.

Fauzias and Bany (2005) extended Claessens's study. They discover existence of pyramid structure within the Malaysian financial distress groups and there is a separation of cash flow and control right among these firms. They even pointed out that as a result of the separation there was minor occurrences of minority expropriation among the financial distress firms connected through a pyramid structure and it came in the form of excessive use of leverage.

Hence, it seems with Claessens et.al (1999, 2002) findings and more importantly the discovery of Fauzias and Bany (2005), it warrants us to investigate the influence of separation of cash flow and control rights even more – this time on over investment problem. Thus we extend the two prior studies on separation of cash flow rights and control rights by proposing a model that link separation of cash flow and control rights with another forms of minority expropriation which is *over investment* practices that may occur among Malaysian distress firms.

The theoretical arguments and findings of Holmen and Hogfeldt (2005) provide some justification as to why there could exist a relationship between the separation of cash flow rights and control rights with firm's over investment practices. Under their overinvestment hypothesis, it is argue that the ultimate owners have the tendency to engage in inefficient investment activities. What drives the ultimate owners to do so is their highly leveraged control over firm's internal resources. ie. cash flows or retained earnings in firms located at the lower part of the pyramid

Accordingly, ultimate owners would not hesitate to engage in such wasteful investment because they are blessed with significant amount of resources within their control due to the pyramiding structure. In addition, even if the investment went under, the loss will not be proportionately shared between the minority shareholders and the ultimate owners. As a matter of fact the ultimate owner's losses will be significantly marginal as compared to the loss of the minority shareholders. Again all are due the pyramiding structure. However, if the investment turns out to be well, significant portion of the returns will reside in the hand of the ultimate owners due to their leveraged control over the firm's resources. Their findings on pyramid affiliated Swedish firms support for the overinvestment hypothesis. They discover that ultimate owners in Sweden equipped

with highly leveraged control tend to make firms overcapitalized and thus leads to overinvestment.

### **How does Pyramiding Creates Separation of cash flow rights and control rights**

To understand how firms formed in pyramid group create the separation of cash flow rights and control rights, which then may lead to value destruction as mentioned earlier, we must first understand the nature of the pyramid group itself. As noted by Wolfenzon (2004), pyramid structures are defined as owning a majority of the stock of one corporation which in turns holds a majority of the stock at another. Take for example Halim bin Saad a Malaysian entrepreneur who owns 28.3% of Renong Berhad (see figure 1), which at one time was among the biggest conglomerate in the country. The 28.3% stakes makes Halim the majority stockholder and ultimate owner of Renong Berhad.

At the same time, the Renong owns 32.5% of shares in United Engineers Malaysia (UEM). Just like previously, this make Renong the controlling stockholder and ultimate owner of UEM. The fact that Halim controls Renong Berhad and Renong Berhad on the hand, is a major shareholder of UEM, this provide the rights for Halim to control UEM also. Figure 1 below provides an example how these group of corporations are formed into a pyramid structure.

Because ownership only arise with investment, cash flow rights (CFR) also proxy for owner's investment in a company (Morck and Yeung 2004). Control rights (CR) on the other hand represent voting rights for the controller (Claessen et al 2000). Logically, owner's voting rights in a company should equal owner's cash flow rights that arise from his actual investment. But due to the pyramid structure as observed in figure 1, these two are no longer equal.

In this pyramid group, Halim has a direct ownership only in Renong. For the rest of the firms, the ownership comes indirectly. For instance the Halim ownership in UEM comes through Renong Berhad, and this because Renong Berhad owns UEM. For Kinta Kelas, the Halim's ownership arises from his stake in Renong Berhad and UEM.

Let us now quantify the actual ownership that Halim has in Kinta Kelas. The actual ownership is proxy by the CFR.:

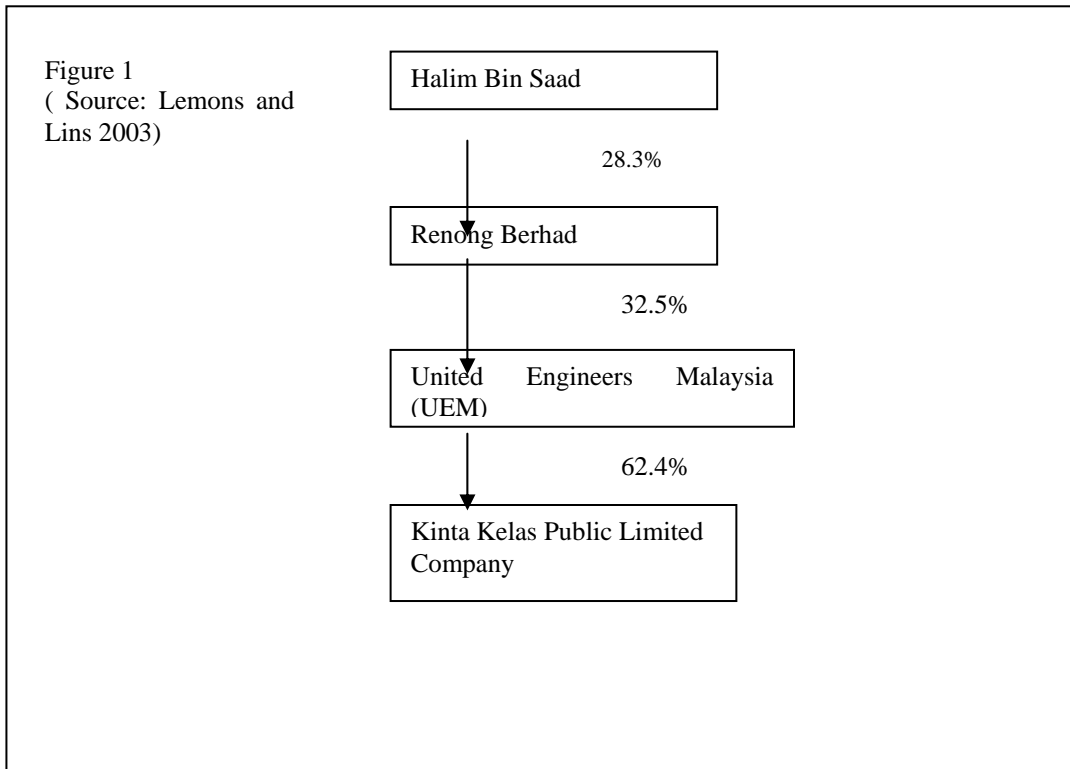
$$\begin{aligned} \text{CFR in Kinta Kelas} &= 28.3\% \times 32.5\% \times 62.4\% \\ &= 0.05739 \sim 5.73\% \end{aligned}$$

Halim's CFR or ownership in Kinta Kelas equals 5.73% only. Since theoretically ownership arise from one's investments, if the amount of ownership of in Kinta Kelas is 5.73 % that means his investment in Kinta Kelas is also 5.73%. Let us now put some dollar figures into the example. Assume, the value of Kinta Kelas is RM10,000,000 because ownership comes with one's investment (Morck & Yeung 2004,

Claessen et al. 2000), Halim's investment in Kinta kelas is only RM573,000.

Halim's indirect control on Kinta Kelas is proxy by the control rights (CR). The control arise from Halim controlling stake in Renong , which then control UEM, and finally controls Kinta Kelas. Laporta et al (1999) and Claessens et. al (2000) defines the weakest link in the line of control as the control rights. With this definition, the control right that Halim has on Kinta Kelas is 28.3%. In practical with these control rights, Halim has the rights to influence (indirectly through Renong and UEM) over

matters such as firm policy, appointing BOD and etc in Kinta Kelas. Evidently, because of the pyramid structure, with 5.73% of ownership or RM 573,000 worth of investment Halim has 28.3% of controls in a firm (Kinta Kelas) worth RM10,000,000. This significant separation of ownership and control clearly deviate from the traditional idea of one share – one vote (Grossman and Hart 1988). Crucially, the incentives to expropriate the minority shareholders may also arise from this separation (Claessens et. al 2000).



As in Laporta et al (1999), Claessens et al (2000), the separation can be observed by looking at the ratio of CFR to CR. Using the above examples to illustrate;

The separation of CFR& CR in Kinta Kelas = Halim's CFR/ Halim's CR  
 $= 5.73\% / 28.3\% = 0.2024$

Hence, the smaller the ratio indicates larger separation between the two CFR and CR. And this has some detrimental effect over firm valuation. The following example will illustrate such effect.

In example one, let us assume that Halim at the apex of the pyramid has ordered Kinta Kelas to venture in a highly risky business. Because of some unfortunate events, the business venture failed and it lead to one million decrease in the value of Kinta Kelas. Since UEM has 62.4% of ownership in Kinta kelas, this one million decrease in value of Kinta Kelas would translate into RM624,000 decrease in the value of UEM, a RM202,800 (32.5% of

RM624,000) in the value of Renong, and finally a RM57,392 (28.3% of RM 202,800) decrease in Halim's total wealth. Hence, a million dollar hit on the value of Kinta Kelas ultimately translates into a fall of RM57, 392 in the ultimate owners wealth at the apex of the pyramid. With such minimal losses to the ultimate owner, this encourages him to venture into more risky investment utilizing firms located at the lower tiers of the pyramid (Morck & Yeung 2004).

Our second example is on Inter-corporate transfer of wealth among pyramid firms to the advantage of the family firms (Johnson, La Porta, Lopez and Shleifer 2000) and it is called *tunneling*. To see this, suppose an asset of Kinta kelas (see figure 1) rises in value by a million RM. As already noted, only RM57,392 of this gain ultimately accrues to Halim at the pyramid's apex. The rest is diverted to one level after another.

The fact that the Halim control Kinta Kelas's board, Halim might order Kinta Kelas to sell the assets to a firm in a higher tier of the pyramid at cost. For example, if Kinta kelas sells the asset (the one that worth RM 1 million) to Renong at a minimal costs, the additional million dollars shows up in Renong instead. Since there is only one layer separating Renong and the ultimate owner (Halim), a RM 1 million increase in Renong value, will cause Halim's wealth to raise by RM283,000 (28.3% of RM1,000,000) instead of only RM 57, 392. This value (RM57,392) is the value accrued to Halim if the assets value had to pass through all of other firms in the group; (Kinta Kelas, UEM and Renong). Tunneling such as this is an agency problem where controlling family moves wealth out of firms whose cash flow mainly go to public shareholders and into firms whose cash flows accrue mainly to the controlling shareholder.

Empirical evidences on the minority shareholder expropriation for firms located in a business group that are formed as pyramidal structure has been documented by several researchers. Claessens et al (1999, 2002) find some evidence that firms in business groups organized as pyramid have lower Tobin's Q before the start of the Asian financial crisis. Bae, Kang and Kim (2002) find that Korean Chaebols use merger and acquisition transaction between member firms to expropriate shareholders of the bidder firm and benefit the controlling family. Friedman, Johnson and Mitton (2003) discover that among the Asian business group, ultimate owners sometimes "prop up" (inject money) into failing firms as to protect the family empire even though such act are financially unjustifiable. Khanna and Rivkin (2001) study business groups in 15 countries. They find in all 15 countries, only three affiliations that add value to member firms. Because the number of success is so small they conclude that pyramiding business group is more value destroying rather than value adding. Finally, Khanna and Palepu (2000) analyze the performance of business groups in India and find that only members of the largest groups have positive valuation. Member firms of medium-sized Indian groups have valuation below their independent counterpart (not part of any business group). Similarly, since the positive impacts from forming a business group are not comprehensive to all Indian groups and only small number benefited from it, they too conclude those pyramidal business groups are not warranted. Minority shareholders expropriation may also take several other forms. Johnson et al (2000) provide some examples: charging high (or low) interest rate loans to member firms in the pyramid chain, selling of inputs and purchasing of outputs at non-market prices among member firms, leasing of assets and guarantee other companies borrowing without proper justifications are few of the ways companies may tunnel resources across each other at the expense of the minority

shareholders and this may directly affect firm valuation (Bertrand, Mehta and Mullainathan 2002).

On the local scene, Fauzias and Bany (2005) discover that the pyramiding structure has some marginal bearing over the capital structure decision of Malaysian distress companies. Using the *non-dilution entrenchment effect hypothesis* (Du and Dai 2004, Boubaker 2003) the authors explain the findings. Because of the pyramiding structure, the ultimate owners must simply *raise* firm leverage in order to prevent the dilution of their shareholding dominance in firms located at the bottom of the pyramid structure. The excessive use of leverage in order to protect their dominance in these firms was done without any prior regard for risk. The reason for this is because with such a small cash flow rights, the ultimate owner will bear small loss if financial distress occurs but gain enormously from the financing policy (capital structure) if everything goes well for these firms.

### Hypothesis Testing

Holmen and Hogfeltd (2005) have found that Swedish firms controlled through a pyramid, do not pay dividend as much as non affiliated firms. The reason for this is because the parent firms at the apex of the pyramid structure are subjected to double taxation on the dividend income receive from their subsidiaries located at the bottom of the pyramid structure. As a result of this, most of the time the subsidiaries will reinvest into the company their earnings. Holmen and Hogfeld (2005) hypothesize because of ultimate owners controls over these subsidiaries that derive from the pyramidal structure, they will then exploit these retained earnings and the exploitation comes in the form of engaging in an inefficient investment. The exploitation by the ultimate owners was inevitable because they are blessed with control over abundant of firm resources and there is no negative repercussion on the ultimate owner if they failed to capitalize on these resources optimally<sup>24</sup>. From Holmen and Hogfeld (2005) empirical testing, they first observe a highly significant negative relationship of firm's Tobin's Q and their retained earnings. Since Tobin's Q could gives us an idea how market evaluate a situation in a firm, a negative relationship between Tobin's Q and firms retained earnings implies that the market has anticipated such malpractice of the ultimate owners on firm's resources. Using Gugler, Mueller and Yurtoglu (2003) technique later they discover that the available resources i.e retained earnings was then used in an inefficient investment venture and did not generate the necessary return required by the market. Based on these findings they conclude in the case of the Swedish pyramid affiliated firms, the ultimate owners have indeed exploited their controls over

<sup>24</sup> How the pyramidal structure shields the ultimate owners from any negative repercussion has been illustrated in earlier discussion.

these firms and it comes in the forms of using the retained earnings for inefficient investment.

Could incidence of exploitation of firm's resources also occur among Malaysian distress firms? Several findings within Malaysian context may provide us with the clue that such incidence may be possible in Malaysia market. Firstly, Fauzias and Bany (2005) discover that within the financial distress group there exist pyramidal ownership structure and this pyramidal structure provides opportunity for the ultimate owners to use their control rights in an abusive manner. Their findings highlighted that the exploitation of control rights came in the form of excessive leverage usage and it occurred in order to protect the ultimate owner's dominance within these firms. Although it may appear that the used of debt excessively may be detrimental to the well being of the ultimate owners as it raises bankruptcy risk, however because of the pyramidal ownership structure, the ultimate owner's interest is insulated from the negative impact of excessive leverage. Thus the pyramidal structure encourages the ultimate owners of Malaysian distress firms' to use leverage without prior regard to the level of risk that minority shareholder have to bare.

Secondly, Subramaniam (2005) claims that in aggregate for the level of earnings generated by Malaysian firms, the amount of dividend paid is considerably low. Generally unless the earnings are distributed out, they will be retained in the company. Since pyramidal structure provides controls to the ultimate owners over firm's resources, these undistributed earnings are now under their discretion. With the undistributed earnings under the ultimate owners discretion and they are protected from any repercussion in the even they purposely exploit these resources, the pyramidal structure may encourages the ultimate owners to engage in private benefits activity. Putting the findings of Fauzias & Bany (2005) and Subramaniam (2005) together, we hypothesize that the ultimate owners of Malaysian distress firms that are part of a pyramidal group will have the tendency to use firm's resources (ie retained earnings) to generate private benefits. At the same time we believe that the market would anticipate such behavior among the ultimate owners and such behavior are greatly discounted by the market. Thus,

H1: The relationship between market valuation and separation of cash low rights and controls rights (measurements) proxy of the pyramid structure is negative because the structure *provide opportunity* for the ultimate owners to reap private benefits

H2: The relationship between market valuation and the interaction term (ie. separation cash low rights and controls rights ratio times firm's retained earnings) is negative because through the pyramidal structure ultimate owners exploit firm's resources.

If indeed, the ultimate owners have full control over firm's resources (ie retained earnings), in what way would they most likely use them. In the case of Swedish pyramidal firms, the ultimate owners used

their control rights to channel firm retained earnings into investment activity irrespective of the prospect Holmen and Hogfeld (2005).

We suspect similar occurrences among Malaysian distress firms that are affiliated to pyramidal group. This is because other than being the cheapest source of financing for the investment activity, the ultimate owners also has absolute control over them (ie. retained earnings). Thus,

H3: Firm's investment activity and firm's retained earnings are positively correlated.

Holmen and Hogfeldt (2005) later pointed out using Gugler et al (2003) technique that most of the financing resources of the pyramidal affiliated firm's were channelled to unproductive investment. As a result, the investment activities in which these firms engaged did not provide the return required by the market. Hence, they claim that these firms face serious *over investment* problem. Could similar results be expected from Malaysian distress firm's investment activity?

As stated earlier, many Malaysian firms involved in an unproductive investment activities (Gupta 2002, Saxena and Wong 2002). These unproductive investments did not provide the necessary returns sufficient to cover the initial investment cost. As a result, these firms face great financial difficulty and many of them became distress firms. We suspect the main reason for these unproductive investment activities is due the overwhelming control that the ultimate owners have over firm's resources. As a result of this overwhelming control over firm's resources and the fact that the pyramiding structure could offer insulation from any repercussion if they failed to optimize them, this could result in incidence of utilizing firm's resources to generate private benefits (ie empire building). Thus, perhaps under such circumstances private benefits generating activities and unproductive investment may be an unavoidable among the pyramidal affiliated firms

Since Gupta (2002), Saxena and Wong (2002) have found that many Malaysian firms became distress as a result of unproductive investment activity and the fact that several of the pyramidal affiliated firms are categorized as distressed firms, we conjecture that the among these firms, their resources were used unproductively and this lead to over investment problem among pyramidal affiliated distress firms. Therefore we hypothesize,

H4: the firm's resources among the pyramidal affiliated firms were channelled inappropriately into investment activities that did not produce sufficient returns as required by the market.

## Sample Characteristics

The samples of this study are Malaysian distress companies. As end of year 2002 there were 100 listed distress companies all together. The list is obtained from *Securities Commission of Malaysia* (SC). All of the financial and accounting information for each of

the company is collected for three years prior to it being classified as distress companies. These values will then be average out for three years for the purpose of analysis. The ownership structure information collected is also for the year end before it being classified as distress companies. Since the ownership structure is rather stable over time (La Porta et al 1999), we expect no problem in employing single year ownership data to examine the relationship between corporate investment and ownership structure over the three years period.

Following La Porta et. al (1999), we analyze ultimate ownership and control patterns in distress companies. To begin our analysis, we will first identify the largest immediate majority shareholders for each firm located at the bottom of the pyramid structure. In most cases, the immediate majority shareholders of those corporations are individuals, corporate entities or financial institutions. Because it is almost impossible to trace the ownership link (the owners of those owners and so on) in the case that the largest immediate shareholders are individual or nonlisted firms, we only choose corporations in which their largest immediate shareholders are listed firms or listed financial institution. This is because the information on the ownership at these immediate listed entities is publicly available.

Because we have to choose only listed and largest immediate shareholders, in order to establish the ownership link we have to eliminate 75 distress companies from our original sample. Our final sample constitutes 20 companies only. These 20 companies are those that we reasonably believe we are able to trace the ownership link all the way to the ultimate shareholders.

The drawback of this technique in identifying the ultimate shareholders is that we may not be able to generalize the findings as much. This is because as mentioned, many Malaysia corporation including the distress companies are affiliated with business groups and hence with pyramid structure through an unlisted corporation. The unlisted corporation and individual could have direct and indirect ownership links in these corporations. As a result, we are likely to underestimate the ultimate ownership and influence of large shareholders for group- affiliated firms. Consequently we may also underestimate the effect of ownership structures on firm valuation in general.

After we have identify largest immediate shareholders (i.e listed corporation or listed financial institution) for each of these 25 distress companies, we then trace the largest owner of these companies and the owners of those owners and so on until we reach the ultimate shareholders. For our study, in most cases the tracing process takes three to four layers of corporation ownership before we could possibly identify the ultimate shareholders.

Studying the separation of ownership and control requires data on both cash flow rights and control rights, which we calculate using the complete chain of ownership. As illustrated previously, suppose

family owns 10 percent of the stock of a publicly traded firm A, which in turn has 30 percent of the stock of firm B. We then say that the family controls 10 percent of firm B – the weakest link in the chain of control rights. In contrast, we say that the family owns about 3 percent of the cash flow rights of firm B, the product of the two ownership stakes along the chain.

In each pyramid structures, to determine effective control at any immediate levels as well as the ultimate level, we need to use a cutoff point above which we assume that the largest shareholder has effective control over the immediate and final corporations. We use 10 percent as the cutoff point in our empirical analysis because that level is commonly use by other studies (Claessens et. al 2002).

We start by reporting descriptive statistics on the separation of cash flow rights from control rights for distress companies in table 1. On average the ultimate owners of distress companies has 4.318% of cash flow rights in each company. In contrast, the control rights of the ultimate shareholders are 15.165%. The third item in table 1 is the ratio of cash flow rights to control rights. This ratio indicates the amount vested interest of the ultimate shareholders in order to gain some control in the distress companies. On average the ratio is about 0.2571. This implies, the typical large ultimate controlling holder of distress companies has 10 controlling votes for each 2.57 direct shares held. In other words, by owning 2.57 shares, it gives them a controlling power equivalent of 10 shares.

In sum, the sample shows pattern similar to what has already been disclosed in Claessens et.al (2000). Firstly, in the distress companies, control of the ultimate shareholders is enhanced through pyramid structure among firms. Secondly, control rights consequently exceed cash flow rights. That is the ultimate shareholders are often able to control a firm's operations with relatively small direct stake in its cash flow rights. These findings have important implications for the ability and incentives of the ultimate controlling shareholders to expropriate minority shareholders, as shown by Claessens, et al (2002). With regards to this study, the expropriation of the minority shareholders may take form of using firm's resources and channelling them to unproductive investments.

## Regression analysis

In this section we first analyze how the separation of cash flow rights and control rights resulting from the pyramiding structure affect firm's market valuation. The basic regression specification employed to determine the market valuation effect is as follows.

### Model 1

Firm's Q ratio = f (pyramidal ownership proxy + retained earnings + leverage + firm size) + error

We employed firm's tobin's Q (Morck, Stangland and Yeung 2001) as measurement of firm's market valuation (dependence variable). The measurement of tobin's Q are: sum of market value of equity and book value of total debt divided by book value of total assets. For the explanatory variables, we include variable recommend by Holfman and Hogfeldt (2005) and they are the retained earnings, total leverage and firm size. Measurement of firm size in particular is book value of total assets. All three explanatory variables are also for controlled size effect.

Theoretically, we should see positive relationship between market valuation variables and all three explanatory variables. For instance, the larger the size of the firm, the more stable the cash flow becomes and this may lead to positive valuation for the firm. With regard to leverage used, it would enable firms to capitalize on the tax deduction scheme that comes with consumption of debt. Therefore the higher the leverage, the more tax cut the firm gets and this also may eventually lead to positive valuation. Retained earnings are generated from firm's profit. Higher retained earnings generally imply strong profitability. Since market is always appreciative of high profit level, therefore high level of retained earnings deriving from high profitability should also be positively evaluated by the market.

In model 1, we also include the pyramidal ownership variable, which is proxy by cash flow rights and control rights ratio. This variable should indicate the degree of separation of cash flow rights and control rights in firms located at the bottom of the pyramid. Other than giving us a picture about the separation cash flow rights and control rights, its inclusions would also enable us to test the hypothesis that market perceives such separation as detrimental to the well being of the minority shareholders in a firm. Because of its detrimental effect of the pyramiding structure, we expect the relationship between the pyramidal ownership variable and firm's valuation variable to be negative.

*Model 2*

Firm's Q ratio = f (pyramidal ownership variable \* retained earnings + leverage + firm size) + error

In model 2, we interact the pyramidal ownership variable with firm's retained earnings. Similar technique was employed by Holfman and Hogfeldt (2005). This is done to test the hypothesis two, that the ultimate owners of the pyramid among the distress firms have exploited their control in the firms and the exploitation is on firm's retained earnings. It can be expected that the interaction variable and firm's valuation variable to be negatively related.

To test hypothesis 3 we make the assumption that the pyramidal control firms are particularly dependent on retained earnings as a source of financing. As a result these firms should have significantly higher investment to retained earnings sensitivities. Higher investment-retained earnings sensitivity occurs because costs of external and

internal capital for these firms differ (Erickson and Whited 2000, Holfman and Hogfeldt 2005). In particular, the cost of internal capital for the controlling owners of the pyramidal affiliated firm decreases as separation between CFR and CR of the ultimate owners grows. This because as the separation of CFR and CR grows<sup>25</sup>, so does the ultimate owner's grip over firm's resources thus making the resources easily assessable to them. Also as the CFR and CR grows the amount of vested interest for the ultimate owners in these firms becomes smaller even more, making them to less vulnerable to any mishap consequence initiated by them.

For the participant of the capital market on the other hand, as they observe the separation of CFR and CR of the ultimate owners grows, their anticipation of such ill practices conducted by the ultimate owner increases. Therefore they will demand extra return when they provide new external equity to pyramidal affiliated firms for financing reason i.e making cost of equity issuance more costly as compared to cost of internal financing. In general we can say that the pyramiding may endogenously creates a wedge between costs of internal and external capital because of the strong separation of control and ownership. (Holmen and Hogfeldt 2005)

The following model is used to test the hypothesis (ie. hypothesis 3) that the investment level of the pyramid affiliated firms is sensitive to firm's retained earnings due to over dependence on internal financing. The measurement for firm's investment is total yearly capital expenditure. Again just like in previous two models, all of the variables are control for size, for the purpose of regression.

*Model 3*

Firm's Investment = f (retained earnings + output + leverage) + error

Besides firm's retained earnings, we also include output and leverage as explanatory variables. Output is proxy by the firm's total sales. Theoretically, as output expanded, investments by firms have to increase as well in order to accommodate expansion. Thus, we can expect a positive relationship between the two variables (Holmen and Hogfeldt 2005)

As a measurement to firm's leverage, we will use the total long term debt. Firm's leverage is expected to be negatively related with investment. This is due to extensive monitoring and scrutiny of the debt holders. Because of the monitoring and scrutiny, firms with debt will have limited freedom in choosing their investment outlet. With limited freedom, chances of engaging in an inefficient investment become less.

<sup>25</sup> Generally as CFR and CR becomes more separated, this implies that the amount of real ownership gets smaller while the amount of controlling vote increases. Hence with more controlling votes the more control they have on firm's resources.

However, we also suspect that the relationship between leverage and investment can also be positive in the case of Malaysian distress firms. This presumption arises because of the findings made by Fauzias and Bany (2005). Fauzias and Bany (2005) discover that leverage is positively correlated with the separation of CFR and CR in the case of Malaysian distress firms. Gupta (2002) at the same time observe that among Malaysian distress firms, there is an obvious over investment problem. Could there be some forms of relationship between these two? We hypothesize that there is another forms of relationship between these two and it is a positive relationship. If it is a positive relationship, that means for these distress firms other than relying on firm's retained earnings to finance their investment activities, they may had also used the proceeds obtained from their debt issuance as well to finance their unproductive investment activities. In addition, if the relationship was found to be positive, this mean *not only* we have discovered another source of financing for the ultimate owners ill business practices but also this may provide an empirical prove that *tunneling* (Bertrand et al 2002) also appear to occur among Malaysian distress firms.

Our next task is to actually test if there is in fact over investment problem among Malaysian distress firms. In order to do so we employ Gugler et al (2003) technique depicted by model 4:

#### Model 4

Firm Market value = f (Retained Earnings + Leverage) + error

The dependent variable of this model is firm market value and it is proxy by end of the year firm's market capitalization. The independent variables represent sources of firm's financing. We choose retained earnings as one of the variable as this is consistent with the overall objective of our study to establish a link among the three variables; the pyramidal ownership structure, retained earnings and the over investment problem. While, debt is chosen over external equity because Malaysian firms predominantly used debt rather than equity financing (i.e season issuance) as continued sources of funds (Nurhuda 2002).

The null hypothesis of this model is that the coefficient of the independent variable equals to one. If it equals to one, this implies that for every ringgit of financing spent, the market value of the firm should increase by at least one ringgit or more. If the market value of the firm does not increase by one ringgit (ie. the coefficient of the independent variable is less than one), this means that the management of the firm has failed to utilize the funds obtained from the sources of financing wisely and efficiently.

Pertaining to the general issue of this study, we expect the coefficient of the retained earnings particularly to be smaller than one. Thus this implies an inefficient used of funds from the retained earnings, perhaps in the form of inferior investments.

## Regression Results

Table 2 presents regression results that link Malaysian distress firm's market valuation to the separation of cash flow rights and control rights resulting from the pyramid structure. The regression result in model 1 shows that the difference between control rights and cash flow rights has a negative effect on firm's market valuation but it is not significant. Firm's retained earnings however is negatively correlated with firm value. To ascertain whether or not the ultimate owner did in fact exploited the retained earnings through the pyramidal structure, we observe the relationship of the interaction<sup>26</sup> variable with market valuation variable in model 2. From the result there is some indication that exploitation of retained earnings has taken place as the relationship between the interaction variable and firm valuation variable is significant. In addition since the relationship is negatively significant, the market may expect that the ultimate owners may have indeed used firm's resources to create private benefits. Table 3 and 4 reports regression results of two models (i.e model 3 and model 4). Results from both models would enable us to answer whether or not overinvestment did occur among the Malaysian financial distress firms and how it is financed. Results of model 3 provide us with the first clue. As shown, the levels of investments of these firms are significantly and positively correlated with the firm's retained earnings variable. This perhaps may provide us with the direct evidence that the ultimate owner of these pyramidal affiliated firms had used the retained earnings as one of the sources of financing. Therefore similar to the results of model 2, result of model 3 does provide us with another evidence ultimate owner exploitation of firm's resources. Also shown in the result is that firm's leverages are positively correlated with investment. This only prove that other than the used of retained earnings to finance firm's investment activities, another source of financing is leverage. Hence this may indicate incidence of *tunneling* may also had occur among Malaysian distress firms that are affiliated to a pyramidal group. Results of Model 4 indicate that the coefficient of the independent variables, in particular the coefficient of retained earnings is less than one. In the context of firm investment analysis (Gugler et al 2003), if the coefficient of the independent variable is less than one, this implies that the variable has failed to enhance the value of the dependent variable. Putting it in another perspective because the coefficient of the retained earnings after it was

<sup>26</sup> To our knowledge Lins (2003) was the first to employ such interaction variables in ownership pyramidal structure study. In this study however, for the interaction variable, we employed Holmen and Hogfeldt (2005) technique. Our interaction variable is made of two measurements combined. First variable is the measurement for the separation of cash flow rights variable and control rights. Second is the retained earnings measurement.



regressed with firm market value is less than one, this implies that the used of retained earnings to finance firms investment venture has failed to enhance firm's value. Thus indicate an over investment problem (Holmen Hogfeldt 2005)

## Conclusion

In this paper, we examine the separation of cash flow rights and control rights among Malaysian distress companies resulting from the pyramiding organized by the ultimate owners. We pay a particular attention on how the divergence of cash flow rights and control rights affects companies' investment decisions and the financing of such activities.

Our findings somewhat lends support to the over investment problem, whereby the separation of cash flow rights and control rights have lead to the increase of unproductive used of firm's resources for inefficient investment among the distress companies. Consequently, these abusive usage of firm's resources by the ultimate owner's within these companies then lead to negative market valuation.

Overall our research points out the existence of a relatively risky investment policy among the distress firms resulting from poor corporate governance in the presence of separation of cash flow rights and control rights. This risky investment policy has lead to the fragility of corporations. Thus our finding may provide one additional explanation for the severity of the drop in corporate value among the Malaysian distress companies.

This study can be extended in several ways. One way is by extending the study done by Claessens et.al (2000). They discover that in Asian countries, in most cases the ultimate owners of the pyramid holding groups are privately owned family business. Other categories of owners are state and corporations. Claessens et.al (2002) then discovers that the degree of minority expropriation resulting from the pyramid structure also varies based types of the ultimate owners. Perhaps as an extension of this study, afford can be made to identify the various ultimate owners for the Malaysian pyramid groups of companies and ascertain if the degree of minority expropriation in the form of excessive investment varies according to types of ultimate owners as well.

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## Appendices

| Control Rights | Cash Flow Rights | Ratio of Cash flow rights ratio to Control Rights ratio |
|----------------|------------------|---|
| 15.68%         | 4.318%           | 0.2571  |

| <i>Dependent variable: Tobin's Q</i>   |                        |                        |  |
|--|------------------------|------------------------|--|
| Independent Variables:                 | Model 1                | Model 2                |  |
| Retained Earnings                      | -0.722624<br>(-2.73)** | 0.059632<br>(0.19716)  |  |
| Ratio of C. Flow Rights from C. Rights | -0.08725<br>(-0.386)   | -0.360<br>(0.994)      |  |
| Total assets                           | 0.00488<br>(0.0052)    | 0.0229<br>(0.265)      |  |
| L-T liability                          | -0.35823<br>(-1.0646)  | -0.43819<br>(-0.1592)  |  |
| Interaction variable                   |                        | -6.11761<br>(-2.966)** |  |
| * significant at 10% level             |                        |                        |  |
| ** significant at 5% level             |                        |                        |  |
| *** significant at 1% level            |                        |                        |  |
|  | R <sup>2</sup> = 0.630 | R <sup>2</sup> = 0.690 |  |

| <i>Dependent Variable: Firm investment</i> |                       |
|--|-----------------------|
| Retained earnings                          | 1.130<br>(5.4759)**   |
| Profitability                              | -0.473563<br>(-1.315) |
| L-T debt                                   | 1.0414<br>(4.3900)**  |
| R <sup>2</sup> = 0.562                     |                       |

| <i>Dependent Variable: Firm's market value</i> |                      |
|--|----------------------|
| Retained earnings                              | -1.1508<br>(-0.3095) |
| Long Term liability                            | -0.0934<br>(-0.665)  |
| R <sup>2</sup> = 0.6282                        |                      |
| * significant at 10% level                     |                      |
| ** significant at 5% level                     |                      |
| *** significant at 1% level                    |                      |

| Variables         | Definition   |
|-------------------|--|
| Leverage          | Long term debt / Book value of total assets  |
| Investment        | Total capital expenditure/ book value of total assets                                    |
| Retained earnings | (N.Income – Dividend + Depreciation)/ book value total assets                            |
| Firm size         | Log of total sales   |
| Output            | Total sales/ book value of total assets  |
| Q ratio           | (End of year firm's Mkt Capitalization + Book value total debt)/ Book value total assets |
| Firm market value | End of year firm's Mkt Capitalization  |