The Impact of Pyramid Structure Towards Corporate Value Among Malaysian Firms

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Abstract

The aim of this paper is to examine the impact of pyramid structure towards corporate value of Malaysian firms. Pyramid structure is a business entity whose ownership structure depicts a top-down chain of control. A direct consequence of this structure is a divergence of ultimate owners’ actual ownership and control, particularly for firms located at the lower level of the structure. Previous research has documented that in many East Asian firms, the ultimate owners show a mismatch in cash flow rights and control rights which leads to severe expropriation of minority shareholders’ interest. We adapt the model developed by Attig and the unit of study is pyramidal firms in Malaysia. Our finding shows that the mismatch of cash flow rights and control rights of pyramid structures lead to negative corporate value as well as dilution of minority interest.

Keywords

Pyramid Structure, Cash Flow Right, Control Right, Corporate Value, Attig Model

I. Introduction

This study examines the impact of pyramid structure towards corporate value among Malaysian firms. A pyramid structure is defined as a business entity comprising of a group of companies whose ownership structure displays a top-down chain of control. According to [1], a firm is considered as affiliated to pyramidal firms if it is controlled through pyramidal structure and has at least one intermediary firm in its ownership chain. In such a structure, the ultimate owners are located at the apex with successive layers of firms below. Accordingly, the length of layers of pyramidal structures leads to the opportunistic behaviour of ultimate owners to expropriate the minority shareholders’ interest. Reference [2] is the first study that investigates the issue of pyramid structure and its ultimate control. For instance, they trace the chain of ownership to find who has the most voting rights. Ultimate owners around the world usually control an array of affiliated companies through hierarchical intermediary corporations forming a pyramid structure. Fig. 1, shows an example of a pyramid structure with the ultimate owner located at the apex and successive layers of firms below [1].

A direct result of the pyramid structure is a separation of actual ownership, or cash flow rights, from voting power or control rights, especially firms placed in the lower level of the structure [3]. Cash flow rights represent owner’s actual ownership in a company [4]. Reference [5] defined control with respect to the majority voting rule where the control ratio of a shareholder is obtained by dividing the share of control he can exercise directly or indirectly over a given company, by the percentage of shares he actually owns in that company. Logically, the owner’s cash flow rights that arise from his actual investment should represent owners’ control rights in a company. However, because of the pyramid structure effect, these two rights may not be equal. Specifically, the authors see the impact of affiliation on corporate value is more obvious.

The divergence of actual ownership and control occurs because the pyramid structure enables the ultimate owner to establish control disproportionately to the amount of ownership in each of the successive firms. Consequently, with such a pyramid structure, the ultimate owner’s actual ownership position needed for control becomes smaller at each succeeding layer of the structure. Reference [6, 7] empirically show that the separation of cash flow rights and control rights of the ultimate owner devalue the interest of other shareholders. Both studies conclude that the interest of other shareholders was adversely affected whenever cash flow rights and control rights divergence exists because it enables the ultimate owner to misuse his control rights over the company’s resources without being penalized for misconduct.

Previous study by [3] on the other hand showed that the level of control that Asian pyramidal firms have over the Asian economies is significant. For example, East Asian pyramidal firms controlled 80% of the East Asian economies, as measured in terms of total corporate assets. Malaysia in particular, pyramidal firms control around 28% of the value of listed corporate assets for year 2000. Their study also found that Malaysia has the third highest concentration of control after Thailand and Indonesia. Family control in Malaysia increased from 57.5% to 67.2% of total corporate assets. Malaysia in particular, pyramidal firms have over the Asian economies is significant. For example, East Asian pyramidal firms controlled 80% of the East Asian economies, as measured in terms of total corporate assets. Malaysia in particular, pyramidal firms control around 28% of the value of listed corporate assets for year 2000. Their study also found that Malaysia has the third highest concentration of control after Thailand and Indonesia. Family control in Malaysia increased from 57.5% to 67.2% of total listed company as the cut off level of voting rights increased from 10% to 20%. For state-owned firms in Malaysia, these firms comprised between 13.4% to 18.2% for 20% and 10% cut off point respectively.

Many studies have been done about pyramidal structure in term of its separation of ownership and control [2, 3, 8], correlation between firm performance and ownership structure [7, 9-10], tunnelling effect of pyramid structure [11-13] and other aspects. However, this study investigates the impact of pyramid structure towards corporate value among Malaysian firms. It is because dilution and ultimate owner misconduct are more obvious within the pyramidal structure than other types of firm [1]. Therefore, the high probability of negative implication of pyramid structure on corporate value as well as dilution of minority interests has encouraged studies in this direction. Empirical evidence of the impact of pyramid structure towards corporate value is still relatively limited especially in Malaysian context and an extensive investigation based on Attig Model in this direction is warranted. With completion of this review process, this

Fig. 1: Example of Pyramid Structure (Arrows Indicate Direction of ownership)
study would have established the necessary empirical framework to explain such adverse phenomena. Thus, the objective of this study is to provide a comprehensive review of the empirical evidence for understanding the impact of pyramid structure towards corporate value.

The remainder of this study is as follows. The next section provides a review of prior literature. Section 3 discusses the methodology in this study. Section 4 presents the discussion of result in terms of the impact of pyramid structure on corporate value. Section 5 contains conclusion.

II. Literature Review

Pyramidal structure has been defined as owning a majority of the stock of one corporation which hold a majority stock at another firm [14], which he does not totally own [15]. Reference [2-3] found that controlling shareholders have control rights over firms in excess of their cash flow rights through a pyramid control structure. Endowed with a motive due to non-matching significant control rights with lower cash flow rights, the controlling shareholder proceeds to entrench and pursue private benefits at the expense of outside investors. Besides that, Asian firms are perceived to be highly concentrated. Previous studies have documented that Malaysia with high ownership concentration which is the second highest in East Asia as well as high separation of ownership rights and control rights are vulnerable to controlling shareholders’ expropriation [3].

There is some evidence of ownership concentration in Malaysian corporate scenarios which studied by [16]. They reported that ownership concentration is undiluted overtime. It is more apparent that Malaysian corporate scenario is faced with Type II agency problem which is between majority shareholders and minority shareholders [17-18], where high ownership concentration is well documented [3, 16, 19-20]. The type II agency problem appears when large shareholders use their controlling position in the firm to extract benefits at the expense of minority shareholders.

Agency problem basically is related to the issue of separation of ownership (cash flow right) and control (control right). Control rights then can far exceed cash flow rights along each chain given that the latter is the products of all of the ownership in the intermediate companies along that chain. So, it can be calculated as the sum of the streams of ownership [21]. Specifically, the total cash flow rights are equal to the sum of all of the cash flow rights from all of the ownership chains. The voting rights are aggregated along the chain with the weakest link of all of the holding layers [2, 3]. This method allows the controlling shareholder to conceal the extent of his voting rights from the minority shareholders. To proxy for the extent of agency problem in Malaysian firms, it is essential to focus on the ultimate ownership and control structure of these firms.

There are studies done to comprehend the relationship between pyramidal ownership structure and investment strategy, capital structure, dividend policy, risk taking strategy and others. Studies by [22-24] have explored these topics and they found that pyramid ownership structure has an impact on these factors and the ultimate owner may undertake policies to facilitate his private benefits. Reference [22] extended Claessens’s study by focusing on a small number of Malaysian distressed firms that had separation of cash flow rights and control rights. The chain of ownership allowed the ultimate owner to control all the firms, even the ones in which he has no direct ownership, the voting rights of the ultimate owner far exceed his cash flow rights, so that there exists a separation between ownership and control in such a structure. Their study discovered that because of the separation, there were incidences of ultimate owner misconduct behavior through a firm’s capital structure and investment policies. Another study by [7] acknowledged that firm’s ownership structure is a main determinant of the extent of agency problems between controlling shareholders and other investors. They also found out that those firms which have deviation between the cash flow rights and control right, the firms’ value drop 10% to 20% lower than firms without deviations of cash flow right and control right during the financial crisis.

Meanwhile, reference [25] in their study of benefits and costs of group affiliation in East Asia realised that complex ownership and control structure of group affiliated firms may lead to severe agency problems. In Malaysia alone, the percentage of firms with pyramidal structure with ultimate owner is about 39.3% [3]. This phenomenon is also observed in other East Asian countries. The current importance of pyramidal ownership structure in the East Asian region encourages examining on the impact of pyramid structure in Malaysian perspective towards corporate value as well as dilution of minority interests. For example, high voting power combined with close relationships between the ultimate owner and top manager’s increases the possibility of expropriation of minority shareholders. Reference [1] assumes that dilution and opportunistic behaviour of ultimate owner are more apparent within the pyramidal structure than other types of firm. They analysed a sample of Canadian listed firms and found that there is divergence between the cash flow rights and control rights in pyramidal affiliated firms and it has a depressive effect on the firms’ value as well as dilution of minority interests.

Reference [10] examined the negative impact derived from the conflict of interest between controlling shareholders and minority interest on corporation value. Observation of 1557 companies from 12 Western European countries found that the presence of a controller was negatively related to firm’s value and these might be the result of agency problems that creates opportunity for expropriation of minority interest. Similar study was done by [26] about the Chinese listed companies and the evidence from revealed that firms were devalued when they participated in direct transfer of resources (tunnelling) from minority shareholders of Chinese publicly listed companies to their controlling shareholders. Reference [1] found that the length of layers of pyramidal firms contributed to the opportunistic behaviour for ultimate owner to expropriate the minority shareholders’ interest of the pyramidal firms. It implied that ultimate owner extract private benefits from the firms he controls at the expense of the minority shareholders that may lead to devaluation of the firms. Findings from [27] reported that the expropriation phenomenon that is likely to dominate the monitoring effect at high levels of ownership concentration, explained why a highly concentrated ownership negatively influences corporate value. Another study by [28] on 600 listed Canadian firms indicated only a weak association between performance measures and ownership concentration levels.

The issue of separation of actual ownership as well as agency problem will serve as the basis for the framework of this study. The discussions centered on testing for the impact of pyramid structure towards corporate value specifically for Malaysian firms. Research on pyramid structure and agency problems of Malaysian listed firms within agency theory framework is relatively limited and thus warrants this study to be undertaken.
A. Separation of Actual Ownership and Control

The issue of separation of ownership (cash flow right) and control (control right) can be illustrated in the case of Malaysian Corporation (see fig. 2). Ultimate owner, owns 35% of shares of company A, making him the majority shareholder and ultimate owner of the company. At the same time, the corporation owns 34% of shares in Company B. Thus, Company A becomes the controlling shareholder of Company B. The fact that Ultimate Owner controls Company A Corporation which in turn is a major shareholder of Company B; this gives Ultimate Owner the right to control Company B also.

Fig. 2: Pyramidal Structure [14]

In this pyramid group, Ultimate Owner has a direct ownership of Company A only. For the rest of the firms, the ownership comes indirectly. For instance, Ultimate Owner’s ownership in Company B comes through Company A. For Company C, Ultimate Owner’s ownership arises from his share in Company A and Company B. Resulting from this particular arrangement, Ultimate Owner’s actual ownership (CFR) in Company C is 7.43%, determined in the following manner:

Actual ownership (CFR) in Company C:
= 35% x 34% x 62.4%  
= 0.07426 ~ 7.43%

Since, theoretically, ownership arises from one’s investments, if the amount of Ultimate Owner’s ownership in Company C is 7.43%, this means that his investment in Company C is also 7.43%. Assuming that Company C is worth RM10,000,000, an investment worth RM 743,000 (7.43% x RM10,000,000), enables Ultimate Owner to control a company worth RM10,000,000. This significant separation of ownership (CFR) to control right among Malaysian firms will be explored thoroughly to indicate whether it has a high tendency towards agency problems. It will examine any indirect expropriation potential within such structures and thus provide additional insights into corporate finance and also governance.

Fig. 2: Pyramidal Structure [14]

II. Methodology

List of pyramidal and non-pyramidal firms of public listed companies was identified. The sample consists of 136 firms listed from Main Market of Bursa Malaysia Berhad (BMD) for the period of 1990 to 2010. Data on the number of pyramidal firms was collected based on cash flow rights, control rights, duality function and financial institution as second largest shareholders. This study adapted Attig Model. This basic model is only including the variables which fulfill the characteristics of pyramid structure. This model is consistent with systematic and anecdotal evidence on pyramid ownership structure which address the incentives for expropriation. It will examine any indirect expropriation potential within such structures and thus provide additional insights into corporate finance and also governance.

This study is a useful contribution to the literature, in which the potential within such structures and thus provide additional insights into corporate finance and also governance.

Fig. 2: Pyramidal Structure [14]

III. Methodology

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Table 1: Methods of Variables Calculation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description and Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>( \frac{(\text{Value of Stock Day 2} - \text{Value of Stock Day 1})}{\text{Value of Stock Day 1}} )</td>
</tr>
<tr>
<td>SD</td>
<td>( \sqrt{\frac{1}{N} \sum_{n=1}^{N} (x_n - \mu)^2} )</td>
</tr>
<tr>
<td>Performance</td>
<td>( \frac{\text{Market Value of Equity} + \text{Total Debt}}{\text{Total Assets}} )</td>
</tr>
<tr>
<td>Debt Ratio</td>
<td>( \frac{\text{Total Debt}}{\text{Total Assets}} )</td>
</tr>
<tr>
<td>Cash</td>
<td>( \ln(\text{Total Cash}) )</td>
</tr>
<tr>
<td>Size</td>
<td>( \ln(\text{Total Assets}) )</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>( \frac{\text{Total Fixed Asset}}{\text{Total Asset}} )</td>
</tr>
<tr>
<td>Pyramidal Firm</td>
<td>( \text{PAFF} = 1, \text{NAFF} = 0 )</td>
</tr>
<tr>
<td>Duality</td>
<td>( \text{Takes value of 1 if the same person serves as both the CEO and the chairman and 0 otherwise} )</td>
</tr>
<tr>
<td>Financial Institution Holding</td>
<td>( \text{Status} = 1, \text{Non-Status} = 0 )</td>
</tr>
<tr>
<td>Dividend Payout Ratio</td>
<td>( \frac{\text{Cash Dividends}}{(\text{Pre Tax Income} - \text{Income tax})} )</td>
</tr>
<tr>
<td>Stock Liquidity</td>
<td>( \text{BASP} = \frac{(\text{Ask-Bid})}{(\text{Ask + Bid})/2} \times 100 )</td>
</tr>
</tbody>
</table>

A. Empirical Model: The Impact of Pyramid Structure on Corporate Value

Reference [1] suggested that affiliation to pyramidal structure and corporate value can be either positive or negative. From positive side, pyramidal structure may create value through financial synergies (financing, smoothing and other benefits) especially for financially constrained affiliates. However, in the case of unequal benefits of affiliation to minority shareholders, pyramidal firm may destruct value. Using the model as stated follows, the authors are expected the result to show that pyramidal structure will give negative impact towards corporate value among Malaysian firms.

In this model, pyramidal affiliated firm (PAFF) is a dummy variable for firm that has an affiliation with pyramidal structure and is assigned a value of one (1) and zero (0) if otherwise. \( \alpha, \beta \) and \( \delta \) are estimated parameters and \( \varepsilon \) is an error term. \( \delta \) will measure the relation between firm’s pyramidal affiliation to TOBQ. TOBQ is a measure for firm’s performance which is also known as Tobin Q. The number of control variables is also considered to capture the potential dilution effects associated with pyramidal structure in the Tobin’s Q regressions. \( \Gamma \) is a set of firm specific control variables. The model for the impact of pyramid structure towards corporate value to test is as in (1) and (1a):

\[
\text{TOBQ} = \alpha + \beta \Gamma + \delta \times \text{PAFF} + \varepsilon \quad (1)
\]

\[
P(\text{TOBQ}) = f(\text{Pyramid, Risk, Size, Cash, CAPEX, DebtR, DivR, Duality, FIH, Liquidity}) \quad (1a)
\]

Table 2, illustrates the expected coefficient signs for the relationship between pyramidal structure and corporate value.

Table 2: Variables Relationship for Model Pyramid Structure with Corporate Value

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pyramidal Firm</td>
<td>Negative (-)</td>
</tr>
<tr>
<td>Risk</td>
<td>Negative (-)</td>
</tr>
<tr>
<td>Cash</td>
<td>Positive (+)</td>
</tr>
<tr>
<td>Size</td>
<td>Positive (+)</td>
</tr>
<tr>
<td>Capital Expenditure (CAPEX)</td>
<td>Negative (-)</td>
</tr>
<tr>
<td>Firm Performance (TobinQ)</td>
<td>DV</td>
</tr>
<tr>
<td>Debt Ratio (DebtR)</td>
<td>Positive (+)</td>
</tr>
<tr>
<td>Dividend Payout Ratio (DivR)</td>
<td>Positive (+)</td>
</tr>
<tr>
<td>Duality</td>
<td>Positive (+)</td>
</tr>
<tr>
<td>Financial Institution Holding (FIH)</td>
<td>Positive (+)</td>
</tr>
<tr>
<td>Stock Liquidity</td>
<td>Negative (-)</td>
</tr>
</tbody>
</table>

Notes: DV = Dependent Variable

IV. Discussion of Result

A. Model for the Impact of Pyramid Structure on Corporate Value

Table 2 as described previously shows the result of the impact of pyramid structure on corporate value. It can be summarized that affiliation to a pyramidal ownership is negatively related to the corporate value. The result suggests that firms affiliated to a pyramidal ownership underperforms unaffiliated ones in term of market valuation [1] and this is supported with [30] prediction that corporate value and performance should be lower in firms that are owned through pyramids.

Other studies by [27] also stated that the expropriation phenomenon is likely to dominate the monitoring effect especially at high levels of ownership concentration. They found that a highly concentrated ownership negatively influences corporate value. Meanwhile, research done by [31] suggested that market will discount corporate value if minority shareholders are exposed to the risk of exploitation from insiders.

Table 3: Result of Regression Analysis on Model (Corporate Value)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coeff.</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH</td>
<td>-0.139106</td>
<td>0.054368</td>
<td>-2.558630</td>
<td>0.0106***</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.348095</td>
<td>0.179632</td>
<td>-1.937822</td>
<td>0.0529**</td>
</tr>
<tr>
<td>Cash</td>
<td>0.003306</td>
<td>0.010064</td>
<td>0.328478</td>
<td>0.7426</td>
</tr>
<tr>
<td>Size</td>
<td>0.745349</td>
<td>0.027750</td>
<td>26.85967</td>
<td>0.0000***</td>
</tr>
<tr>
<td>Debt Ratio</td>
<td>0.070217</td>
<td>0.011956</td>
<td>5.872990</td>
<td>0.0000***</td>
</tr>
<tr>
<td>Dividend Payout Ratio</td>
<td>0.187828</td>
<td>0.062067</td>
<td>-2.880489</td>
<td>0.0040***</td>
</tr>
<tr>
<td>Stock Liquidity</td>
<td>-0.016179</td>
<td>0.005905</td>
<td>-2.739658</td>
<td>0.0062***</td>
</tr>
</tbody>
</table>

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The exacerbation of agency problems among Malaysian pyramid structure may have detrimental influence towards corporate value as well as dilution on minority interest. The expropriation of the minority interest becomes prominent when the separation between the cash flow right and control right is wide. Finding from the study reveals that pyramidal affiliation may be associated with value discount. Liquidity also has negative impact to firm’s corporate value. The higher flow of information will increase the level of exposure to the public. This fact give negative impact to firm’s corporate value because investors / shareholders become more pessimistic towards pyramidal structure that seems to prevent aversive behaviour of the ultimate owner that insulated by ultimate owner and as a mean of empire building. Higher dividend payout ratio will get more positive valuation. Higher dividend will give the impression that the ultimate owner did not keep larger total of retained earnings that can be expropriate later for the benefits of ultimate owner. Debt has positive impact towards firms’ corporate value which means that firms are able to borrow externally. According to [11], pyramidal firms with good corporate governance may find it easier to issue debt. Risk is negatively related to firm’s corporate value. Results for this model show that in Malaysia, risk has positive relation with firms’ affiliation to pyramid structure and these results conform to [1] finding that pyramidal affiliation may be associated with value discount. Liquidity also has negative impact to firm’s corporate value. From the previous research, pyramidal structures tend to expropriate more. Liquidity means the flow of information which is good to other investors. The higher flow of information will increase the level of exposure to the public. This fact give negative impact to firm’s corporate value because investors / shareholders become more pessimistic towards pyramidal structure that seems to expropriate in order to avoid them from being exposed most on any losses.

V. Conclusion

Table 3 shows the result of regression analysis for the impact of pyramidal affiliation on corporate value. Firm’s size recorded positive relation with TobinQ. This means that larger firms will have to have better performance. Firms endowed with larger free cash flows display a higher probability of pyramidal affiliation which leads to severe agency problem. Such firms (cash cows) might satisfy the cash preference of the ultimate owners [1]. Capital expenditure gives negative impact to corporate value. Higher capital expenditures will depress the value because capital expenditures will be likely to be associated with overinvestment by ultimate owner and as a mean of empire building. Higher dividend payout ratio will get more positive valuation. Higher dividend will give the impression that the ultimate owner did not keep larger total of retained earnings that can be expropriate later for the benefits of ultimate owner. Debt has positive impact towards firms’ corporate value which means that firms are able to borrow externally. According to [11], pyramidal firms with good corporate governance may find it easier to issue debt. Risk is negatively related to firm’s corporate value. Results for this model show that in Malaysia, risk has positive relation with firms’ affiliation to pyramid structure and these results conform to [1] finding that pyramidal affiliation may be associated with value discount. Liquidity also has negative impact to firm’s corporate value. From the previous research, pyramidal structures tend to expropriate more. Liquidity means the flow of information which is good to other investors. The higher flow of information will increase the level of exposure to the public. This fact give negative impact to firm’s corporate value because investors / shareholders become more pessimistic towards pyramidal structure that seems to expropriate in order to avoid them from being exposed most on any losses.

### References


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