International Review of Business Research Papers
Vol. 9. No. 4. May 2013 Issue. Pp. 33 – 52

Ultimate Owner Cash Flow Rights Level on Value Relevance of Earnings Information of Pyramid Firms

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The objective of this study is to ascertain whether higher level of cash flow rights (CFR) in the hand of ultimate owner help to improve the value relevance of earnings information in pyramid structure firms. The separation of cash flow rights (CFR) and control rights (CR) in pyramid structure firms has entrenched the ultimate owner and provide them with opportunities to manipulate earnings information, which in turn reduce the value relevance of the earnings information reported. This study hypothesizes that higher level of cash flow rights (CFR) in pyramid structure identified will help to reduce the agency problem between ultimate owner and minority shareholder by reducing the opportunity of ultimate owner to manipulate earnings information, which will increase the value relevance of earnings information in pyramid structure firms. The sample of this study consists of pyramid structure firms in Malaysia for the period of 1990 to 2010, where the identity of the ultimate owner is pyramidal ownership. Earnings return model with the interaction between earnings information reported by pyramid structure firms and the level of cash flow rights (CFR) of ultimate owner is provided to show the effect on the earnings-return relationship in an attempt to measure the value relevance of earnings information reported. Positive earnings-return relationship and higher adjusted R^2 indicate that earnings information is value relevant and vice-versa. Using Panel Generalised Least Square (GLS) estimation, the results show that the presence of higher level of cash flow rights (CFR) in pyramid structure is significant to minimize and mitigate the negative effects of the structure based on higher adjusted R^2 reported within positive earnings-return relationship.

Field of Research: Ultimate owner, Level of cash flow rights, Value relevance, Earnings information, Pyramid structure firms, Panel generalised least square (GLS), Malaysia

1. Introduction

Earnings information is essential for investors to make investment decisions since it provides a better insight of a corporation. Scott (1997) defines relevant information as information that is able to affect investors' belief about future returns. Reliable information also affects belief of the investors. Generally, before investors make any investment decisions, they need relevant information which they can rely on in order to decide on further steps in their investment activities. It is also implies that value

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relevance of earning information quite important since earnings reported is one of the important criteria that investors incorporate in their investment activities to give a better picture of a firm.

This study is motivated by findings of Fan & Wong (2002) which shows that the value relevance of earnings reported by pyramid structure firms in East Asia especially Malaysia is low. In East Asia, investors' perception towards earnings information seems to be affected by the presence of pyramid ownership structure firms. Prior studies by Francis, Schipper & Vincent (2005), Fan & Wong (2002), and Yeo, Tan, Ho & Chen (2002) show that the value relevance of earnings reported in pyramid firms are low due to the common and significant presence of pyramidal ownership structure. Jaggi, Leung & Gul (2009), Andres (2008), Faccio & Lang (2002), Claessens, Djankov & Lang (2000) and La Porta, Lopez & Shleifer (1999) support the significant presence of pyramid firms, where they find that more than half of East Asian corporations and economies, as measured in terms of total corporate assets are controlled by pyramid firms. It is postulates by Fan & Wong (2002) that the value relevance of earnings reported in pyramid firms is low due to entrenchment and information effect argument. Yeo et al. (2002) support Fan & Wong (2002) studies based on entrenchment effect argument, where the findings show that the value relevance of earnings does not always increase with managerial ownership. At low levels of management ownership, the informativeness of earnings has a positive relationship with management ownership. However, at higher levels of management ownership, the relationship reverses suggesting that the entrenchment effect might have set in.

Entrenchment effect occurs when controlling owner is gaining effective control through ownership, enables the controlling owner to determine how profits are shared among shareholders; a job usually attributes to the management (Morck, Shleifer & Vishny 1988). The minority shareholders having minimal cash flow rights face uncertainty whether or not the controlling owner may opportunistically deprive them of their rights. The controlling owners can entrench themselves by self-dealing transactions where they divert the resources of the company (i.e. profits) towards other companies under their control. The controlling owner may also expropriate the rights of other small shareholders by creating information asymmetries such as hiding some profits or losses for private benefits.

The earnings informativeness, which is measured by the earnings-return relation, is significantly negatively related to the ultimate owner's control level, conditional on the owner having gained effective control. This means the entrenchment effect is higher. It can be conjectured that the earnings informativeness is significantly negative related to the degree of divergence between the ultimate owner's control and equity ownership level, namely the more divergence of these two rights, the lower informativeness of their value relevance of earnings.

Based on information effect hypothesis (Fan & Wong 2002), it is argued that concentrating ownership avoids leakage of proprietary information when decision rights are given to specific knowledgeable person. This strategy can prevent their competitors from assessing proprietary information of their rent-seeking activities where the benefit of this strategy works in East Asian environment which is common with political lobbying activities and pyramid ownership structure. In other words, this strategy works in ownership concentration environment by restraining the information flow to the public and reduce the possible competition of the political rent-seekers or

social cost of rent-seeking. Consequently, the value relevance of earnings reported by pyramid firms are affected as the information reported is limited.

In entrenchment effects argument, they argue that the separation in cash flow rights (CFR) and control rights (CR) cause the ultimate owner to be entrenched by their high levels of control even through their ownership level is low. This separation leads to low degree of alignment between ultimate owner and minority shareholders. Since control is not aligned with actual ownership, outside investors predict that the ultimate owner may be involved in manipulation and may report the earnings information for self-interest purposes, rather than presenting the actual condition of the firm. As a result, investors pay less attention on the earnings information reported and cause the value relevance of the report decreases because of entrenchment effect of the ultimate owner, which will lead to agency problems between ultimate owner and minority shareholders. Thus, this will reduce the value relevance of earnings information of pyramid firms.

One way to mitigate the problem of ultimate owner entrenchment is by increasing their cash flow rights (CFR) (Fan & Wong 2002). Once the cash flow rights (CFR) increases, it will cost the ultimate owner to switch or manipulate the firm's cash flows for private gain even though they have effective control over the firm. Consistent with this idea, Jung & Kwon (2002) in their study find that earnings are more informative as the cash flow rights (CFR) of the ultimate owner increases. These findings support the convergence of interest hypothesis for the owner-manager structure that is proposed in Jensen & Meckling (1976). Specifically, Jensen & Meckling (1976) suggest that convergence of interest between owner and manager could occur when the cash flow rights (CFR) of the ultimate owner increase, thus reducing the agency problem. So, the objective of this study is to ascertain if reducing the separation between ownership and control by increasing the level of cash flow rights (CFR) of the ultimate owner will help to improve value relevance of earnings information in pyramid firms.

Such prior studies provide evidence that the pyramid structure causes deterioration of earnings informativeness. However, to our knowledge very few have suggested and tested the probable solution on this issue. It is vital to ascertain whether higher level of cash flow rights (CFR) in the hand of ultimate owner help to improve the value relevance of earnings information in pyramid structure firms. So, this study is purposely to overcome the value destruction issue by reducing the entrenchment effect of the ultimate owner in order to limit their effective power and reduce agency problem between them and minority shareholder. High level of cash flow rights (CFR) in pyramid structure is chosen because prior studies have indicated that it can reduce the entrenchment effect and agency problems pertaining to ownership structure in general. Entrenchment effect, agency problem and value relevance of earnings information are closely associated. Thus, reducing the entrenchment effect will solve the agency problem between ultimate owner and minority shareholders and this consequently will increase the value relevance of earnings information among pyramid firms.

This paper is organized into five sections. The second section presents the literature review and the development of hypothesis. The third section discusses on the details of our model and methodology. The fourth section elaborates on finding of this study and the final section concludes.

2. Literature Review and Hypothesis Development

2.1 Value Relevance Studies

From the relationship between pyramidal firms and agency problems, the ultimate owner has a high tendency to provide accounting information, especially earnings information that suits their self-interest which affects the value relevance of their reported earnings. In this case, investors are the main recipients of the financial statements. These financial statements are supported by financial reporting standard setting bodies such the Financial Accounting Standards Board (FASB) which enable to determine the firm's value. So, it is crucial that the financial information gives value relevant information since it is associated with returns that indicate value relevance (Nilsson 2003).

Accounting information basically provides quantitative information about economic entities and allows the users to make decision-making and judgment (Belkaoui 2000). So, it is important for accounting information especially earnings information to have large amount of relevant information, as it will influence the users of the information specifically investors in decision-making.

Francis & Schipper (1999) measure value relevance of accounting information in four different interpretations. First, they measure value relevance by the profit produced through applying accounting-based trading systems and find that the stock price is not reflect to show fundamental values of the firm. Second, they interpret value relevance of financial information by the possibility of variables used in a valuation model such as discounted cash flow valuation model or they assist in predicting those variables. Third, value relevance is designated by association between financial information and prices / returns, meaning that financial information will affect market prices. Fourth, value relevance is measured by its ability to give a picture of the information fault which will affect share values. This concept is consistent with a measurement standpoint of accounting (Nilsson 2003).

As specified in the conceptual framework of the Financial Accounting Standards Board (FASB) and The International Accounting Standards Board (IASB), relevance and reliability are two principal criteria used for choosing among accounting option. Barth, Beaver & Landsman (2001) remark that in order to operationalize Financial Accounting Standards Board (FASB's) which states criteria of relevance and reliability, test of value relevance can be used as one of the approaches.

Under Statement of Financial Accounting Concepts (SFAC) No.5 Financial Accounting Standard Board 1984, an accounting amount is considered reliable if it represents what it claims to represent and it is relevant if it is able to make a difference to the decision of financial statement users. Based on this conceptual framework, it is wholly recognized that the role of financial reporting in providing relevant and reliable information to the investors is related to the adoption of decision usefulness approach. Meanwhile, Scott (1997) argue that the information is declared as relevant when it can affects investor's beliefs about the future return and represents what if asserts to measure.

Apart from the variety of measurement regarding value relevance, prior researches only focus on the value relevance of accounting information in general (Bao 2004).

However, empirical test on the relationship between pyramid structure firm and value relevance of earnings information is still relatively limited especially in Malaysia and an extensive investigation in this direction is warranted.

2.2 Value Relevance and Pyramid Firms

According to Fan & Wong (2002), the relationship between pyramid firms and value relevance can be explained by two arguments. The first is the entrenchment argument where they argue that the separation in cash flow rights (CFR) and control rights (CR) cause the ultimate owner to be entrenched by their high levels of control even though their ownership level is low, leading to low degree of alignment between the ultimate owner and minority shareholders. Since control is not aligned with actual ownership, outside investors will predict that the ultimate owner maybe involves in manipulation and only report the earnings information for self-interest purpose, rather than presenting the actual condition of the firm. Consequently, the investors will pay less attention towards such reported earnings information causing less value relevance of such information. The second argument relates to information protection. Pyramid firms allow limited information to be disclosed from the perspective of control or power which is gained by the ultimate owner because they need to prevent leakage of information to competitors. Jensen & Meckling (1992) state that decision rights are always delegated to individuals who possess specific knowledge and firm ownership is concentrated.

Morck (1996) argues that this strategy actually allows pyramid firms to ensure information secrecy and also discourage competitors from entering the market. Besides that, the information effect argument is said to secure the ultimate owner's position in the firm and gives them the chance to cooperate with the government. Since the arrangement with the government is on a confidential basis to maintain their integrity and reputation, the presence of ultimate owner in pyramid structure firms can help them manage the information flow to the public. In this situation, the ultimate owner and minority shareholders release as little information as they can to safeguard interest of both parties. Consequently, it will affect the value relevance of the earnings information.

Meanwhile, Francis et al. (2005) compare the informativeness of earnings and dividends for pyramid firms or firms with dual class ownership and single class ownership structure. Informativeness in this study refers to the slope coefficient related returns to earnings or dividends from regression of abnormal returns on news expressed by earnings or dividends announcements. They compare a sample of 205 U.S. dual class firms from 1990-1999 with an industry and year-matched sample of single class firms. Overall, sample results indicate that the earnings information of dual class firms is less informative than those of single class firms. They also interpret this result by suggesting that the net effect of dual class structures reduce the credibility of earnings and enhance the salience of dividends as measures of performance.

A study by Yeo et al. (2002) examine how managerial ownership and external unrelated block holdings affect the informativeness of earnings for companies listed on the Stock Exchange of Singapore. The corporate ownership structure in Singapore mainly comprises firms that originally started as family owned business and government state-owned enterprises. Interestingly, by contrast, Warfield, Wield &

Wield (1995) find that at higher level of managerial ownership, the positive relationship between earnings informativeness and level of managerial ownership is reversed. This suggests that the entrenchment effect might set in as sufficient voting power of the management will become ineffective in aligning the value-maximizing decision between the ultimate owner and minority shareholders.

2.3 Level of Cash Flow Rights

Fan & Wong (2002) argue that ultimate owner is entrenched with the power to control minority shareholders as long as there is separation of cash flow rights (CFR) and control rights (CR). However, if there is an increase in cash flow rights (CFR), the ultimate power to control is minimized as more of the cost (resulting from their misconduct) is also be borned by the ultimate owner. The increase in cash flow rights (CFR) is a direct result of holding a significant amount of shares in the respective company. Gomes (2000) supports this situation as it prevents manipulating the earnings information and expropriate minority shareholders. Consequently, alignment of interest between ultimate owner and minority shareholders can be improved and at the same time reduce the effect of entrenchment.

If the ultimate owner owns less cash flow rights (CFR), it encourages expropriation since he / she is entrenched with effective control rights (CR). As shown in La Porta et al. (1999) and Claessens et al. (2000), the smaller the ratio of cash flow rights (CFR) to control rights (CR), the larger is the difference between them or the wider the separation between cash flow rights (CFR) and (CR). Logically, an increase in cash flow rights (CFR) will result in narrower separation between cash flow rights (CFR) and control rights (CR) creating incentive for alignment between ultimate owner and minority shareholders. Jung & Kwon (2002) also examine the corporate ownership structure which is characterized by the dominance of one ultimate owner involved in firm's management and informativeness of earnings in Korea. Their study is based on prior research that provides two hypotheses, which are convergence of interest and management entrenchment. Their results show that earnings are more informative as the ownership or CFR of the ultimate owner increases, supporting the convergence of interest hypothesis.

Jensen & Meckling (1976) suggest that reduction of agency costs when owner's holding increase leads to convergence of interest. This indicates that the higher the holdings of the ultimate owner, the greater would be the reduction of agency costs. This also implies that the ultimate owner will act in a way to maximize firm value and oblige power contractual constraints on the firm. Even though their cash flow rights (CFR) is high, it does not entrench the ultimate owner anymore as any wrong action taken will also give a significant impact on the ultimate owner. Consequently, the ultimate owner will be less motivated to manipulate earnings, resulting in higher value relevance and quality of earnings information.

Warfield et al. (1995) investigate how the separation of corporate ownership and control affects both the informativeness of earnings and the performance of managers; separation of equity ownership from control of corporate decisions is fundamental to the contemporary theory of the firm (Jensen & Meckling 1976; Fama 1980; Fama & Jensen 1983). The theory predicts that when managers hold less equity in the corporation, incentives arise for managers to follow non-value maximizing activities such as shirking. Based on the theory, two fundamental hypotheses has

been made where the first hypothesis predicts that the informativeness of earnings in exploring stock returns varies systematically with the level of managerial ownership in the corporation. The second hypothesis claims that managers' choices are systematically related to the level of managerial ownership. The test sample comprises over 1600 corporations and nearly 5000 annual accounting reports from 1988-1990. Analysis focuses on the explanatory power of earnings for returns conditional on the level of managerial ownership. The results show the managerial ownership is positively associated with earnings explanatory power for returns. So, the earnings coefficient is significantly greater for corporations with higher managerial ownership. This evidence of more informative earnings from corporations with higher managerial ownership is consistent with the theory of the firm.

Another study by Bozec & Laurin (2008) who examine the case in Canada where control rights (CR) is often encountered in the hands of large shareholders, mostly healthy families. Agency problems will arise from this structure and it enables large shareholders to expropriate wealth from minority shareholders since large shareholders do not bear the full costs of their decisions because of the presence of dual class voting shares. This also leads to control rights (CR) being greater than the cash flow rights (CFR). They assess the impact of separation on different performance matrix with large shareholders controlling the three situations. The first situation is the opportunity to expropriate the minority shareholders, where the cash flow rights (CFR) in the firm is high; and second, the motivation to expropriate minority shareholders, where the level of cash flow rights (CFR) is low. They hypothesize that the incentives to extract private benefits of control are even stronger when the cash flow rights (CFR) of the dominant shareholder is low. To test this, they have divided the sample into two groups, for firms where the dominant shareholder's cash flow rights (CFR) is low and firms with the dominant shareholder's cash flow rights (CFR) is high. The result supports their hypothesis, depict that excess voting rights adversely affect firm performance when the dominant shareholder share of the equity (CFR) is small.

The findings of Bozec & Laurin (2008) suggest that this negative relationship is stronger whenever the firm generates high free cash flows. This finding fairly supports Jensen & Meckling's (1976) alignment hypothesis. As we know, control is often enhanced through the use of pyramid structures. The pyramid structure with high cash flow rights (CFR) level in the hands of dominant shareholder raise market valuation which is consistent with the Jensen & Meckling (1976) model. However, there is an insignificant or negative effect of high concentration of control on firm value. This is weakly supportive of the argument that once "large owners gain nearly full control of the company, they prefer to generate private benefits of control that are not shared by minority shareholders" (Shleifer & Vishny 1997). Separation of cash flow rights from voting rights is especially associated with lower market values, consistent with Grossman & Hart (1988), Harris & Raviv (1988) and Bebchuk (1999). So, the value discount is interpreted as evidence of expropriation of minority shareholders by dominant shareholders.

Claessens, Djankov, Fan & Lang (2002) also investigate the incentive and entrenchment effects of large ownership when separation of cash flow rights (CFR) and control rights (CR) occurs. Their analysis uses data for 1,301 publicly traded corporations from eight Asian countries including Hong Kong, Indonesia, South Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand. Using regression technique, they find that relative firm value as measured by the market to book ratio of assets

increase with the share of cash flow rights (CFR) in the hands of the largest shareholder. It depicts that firm's valuation increases with cash flow ownership in the hands of the largest shareholder. Their study is consistent with previous research on the positive incentive effects associated with increased cash flow rights (CFR) in the hands of one or a few shareholder. Besides that, their results also provide support for the predictions of theoretical studies separating cash flow rights (CFR) and control rights (CR) can create agency costs larger than the costs associated with a controlling shareholder who also has a majority of cash flow rights (CFR).

Based on prior studies, the ultimate owner is entrenched by their effective control over minority shareholders. An increase in cash flow rights (CFR) of the ultimate owner will limit the effective power gained and minimize the entrenchment effects as real holding in the company increases. Even though the effective control is still there, the impact faced by them is greater and more significant. This situation implies to the investors where the opportunity for the ultimate owner to manipulate and divert the firms' cash flow for private gain is lower and the investors can better rely on the information provided.Hence, based on the stated findings, this hypothesis can be explicitly formulated as follows:

H_1: Higher level of cash flow rights (CFR) to reduce the separation of ownership and control in the hands of ultimate owner will increase the value relevance of earnings information in pyramid firms.

3. The Methodology and Model

Earnings-return model is used to measure the value relevance of earnings reported by pyramid structure firms. To meet the objective of the study, the interaction term between earnings reported by pyramid firms and the level of cash flow rights (CFR) is included to capture the effect of the factor over the earnings-return relation. Positive earnings-return relation indicates that the earning is value relevant and vice-versa. The sample covered in this study consists of pyramidal structure firms in Malaysia for the period of 1990 to 2010. Only family owned pyramid firms with sufficient ownership or stock returns, earnings and other financial data for empirical analysis are included. This study uses Panel Generalised Least Square (GLS) estimation. All the variables studied are depicted in Table 1.

For sample $firm_i$, AR_{it} is the annual stock return. Ultimate cash flow rights (UCFR) is incorporated in this study at the 10% cut-off level. It is measured as multiplication of ownership stake along the pyramidal ownership chain. Ultimate control right (UCR) is the ultimate control rights at the 10% threshold. It is the sum of weakest ownership links along the pyramidal ownership chain. The authors rely on previous research in considering the following variables that may affect firms' earnings informativeness. The authors incorporate leverage in the regression. Leverage can be a proxy for the riskiness of debt or default risk (Dhaliwal, Lee & Fargher 1991). Leverage negatively impacts bond assessment (Dhaliwal & Reynolds 1994) and earnings informativeness (Billings 1999). Therefore, the authors expect that highly levered firms are associated with high risk and hence their earnings-return relation is weakened. Leverage is measured as the total debt divided by total assets. The firm size is also included as a control for other missing factors that affect the earnings-return relation. For example, prior literatures on the U.S. case (Atiase 1985 & Freeman 1987) have documented that public disclosure and private development of non-earnings information are

increasing functions of firm size. Thus, the authors include the natural logarithm of the market value of equity to control for the effects of firm size on the earnings-return relation.

Q is a ratio that relates the market value of a firm to the replacement cost of its assets. The extent to which the former exceeds the latter indicates the firm's future growth opportunities. In empirical applications, the book value of a firm's assets often serves as a proxy for the replacement cost of capital. So, Tobin's Q is a better indicator of future growth opportunities (Tobin's 1969). High growth firms may be more risky which weakens the earnings-return relation. Meanwhile, fast growing firms are likely to be young firms with less informative earnings. Given these countervailing effects, the net effect of growth on the earnings-return relation is therefore an empirical issue. So, the authors use Q, the ratio of the market value of equity divided by the book value of total assets to control for the impact of growth prospects on the earnings-return relation.

On the one hand, high company growth opportunity translates into larger expected earnings growth. As investors stock price responses towards current earnings is significant, the stock price informativeness of firms' earnings increases. The use of the market-to-book value of equity produces qualitatively similar results in this study. Growth opportunities are likely to be positively associated with future earnings levels and/or earnings persistence (Collins & Kothari 1989). When market-to-book assets are higher, then the expected earnings growth and/or earnings persistence become larger, therefore resulting to stronger earnings-return relation. On the other hand, the market beta of daily stock price is tied to firm risk. The other variable such annual earnings per share are used to proxy for earning per share. The authors also use earnings per share as indicator to examine the interaction between pyramid firms with the highest and lowest level of cash flow rights (CFR) with the earnings-return relation to see whether earnings information provided by these two structures of the ultimate owners may bring higher value relevance of earnings information.

Table 1: Proxy for variables used

Variables	Descriptions of variables and units of measurement
AR_{it} (Stock returns)	Stock price at the end of the year-stock price at the beginning of the year + dividend of the year / by stock price at the beginning of the year $AR_{it} = P_{it\ -1} + D_{it}\ /P_{it-1}$
EPS (Earnings per share)	Annual earnings per share
EPSHCFR	Earnings per share reported by pyramid structure with the highest level of cash flow rights (CFR)
EPSLCFR	Earnings per share reported by pyramid structure with the lowest level of cash flow rights (CFR)
SIZE (Firm size)	Natural logarithm of the market value of equity
RISK (Risk)	Market beta of daily stock price
DEBT (Leverage)	Total debt / total assets
GROWTH (Growth)	(Q ratio) = Ratio of Market value of equity / the book value of the total assets
Control rights (CR)	The weakest ownership link along the pyramidal ownership chain
Cash flow rights (CFR)	Multiplication of ownership stake along the pyramidal ownership chain

3.1 Empirical Model for Level of Cash Flow Rights (CFR) of the Ultimate Owner on Value Relevance

The Model 1 considers the earning per share (EPS) reported by pyramid structure firms, with highest level of cash flow rights (CFR) in hand of ultimate owner. In order to segregate the pyramid firms according to the level of cash flow rights (CFR), all of the sample firms are first ranked according to the cash flow rights (CFR) level. From the ranking process, the top pyramid firms with the highest level of cash flow rights (CFR) are selected for testing of the hypothesis proposed.

Higher level of cash flow rights (CFR) of the ultimate owner implies higher potential to improve and minimize the negative effect of the pyramidal firms. In other words, higher level of cash flow rights (CFR) of the ultimate owner will minimize the entrenchment effects gained by the ultimate owner, reducing agency problems in pyramid firms. Consequently, investors will rely on the reported earnings because they think that the ultimate owner has little opportunity to manipulate earnings since more of the cash

flow of the ultimate owner will be invested in the firm. Thus, a positive relationship between the two variables implies that investors rely on the reported earnings and that the earnings information is relevant.

As explained before, the separation of cash flow rights (CFR) and control rights (CR) reduce the estimated coefficient of earnings which reduce in the earnings informativeness. The negative effect of the separation between these two rights can be mitigated by increasing the level of cash flow rights (CFR). The earnings information provided by the pyramidal firms with the higher level of cash flow rights (CFR) of the ultimate owner have higher value relevance compared to pyramidal firms with lower level of cash flow rights (CFR) of the ultimate owner. This implies the positive earnings-return relationship and hence increases the value relevance of the earnings information reported in pyramid structure firms.

Model 1:

$$AR_{it} = \alpha_0 + \alpha_1 EPSHCFR_{it} + \alpha_2 Growth + \alpha_3 Size + \alpha_4 Debt + \alpha_5 Risk + U_{it} \quad (1)$$

Where: for sample $firm_i$ and $year_t$

AR_{it} = annual stock return

$EPSHCFR_{it}$ = annual earnings per share with the highest level of cash flow rights (CFR)

Growth = Q ratio, a proxy for firm's performance

Size = the natural log of the market value of equity, a proxy for firm size

Debt = total debt divided by total assets, measure firm's financial leverage

Risk = market beta of daily stock price, a proxy for risk

U_{it} = error term at the year

Meanwhile, Model 2 encompasses pyramid firms with the lowest level of cash flow rights (CFR). It specifically examines the earnings-return relation of pyramidal firms, where the ultimate owner has the lowest level of cash flow rights (CFR) in the sample ranked earlier.

It is expected that lower level of cash flow rights (CFR) causes lower value relevance of earnings information since the wider separation between cash flow rights (CFR) and control rights (CR) provides an opportunity for the ultimate owner to act in negative ways. The wider the separation of cash flow rights (CFR) and (CR) of ultimate owner, the more protection and effective control they will get from the pyramid structure.

As their control increase while the cash flow rights (CFR) is low, higher agency problem will arise between the ultimate owner and minority shareholders and this situation will cause value destruction over the earnings reported by pyramid structure firms. This is consistent with the idea that higher level of cash flow rights (CFR) will

strengthen the positive earnings-return relationship while lower cash flow rights (CFR) weaken the relationship. Specifically, the results suggest that lower level of cash flow rights (CFR) weaken the positive earnings-return reactions.

Model 2:

$$AR_{it} = \alpha_0 + \alpha_1 EPSLCFR_{it} + \alpha_2 Growth + \alpha_3 Size + \alpha_4 Debt + \alpha_5 Risk + U_{it} \quad (2)$$

Where: for sample $firm_i$ and $year_t$

AR_{it} = annual stock return

$EPSLCFR_{it}$ = annual earnings per share of the pyramid firms with the lowest level of cash flow rights (CFR)

Growth = Q ratio, a proxy for firm's performance

Size = the natural log of the market value of equity, a proxy for firm size

Debt = total debt divided by total assets, measure firm's financial leverage

Risk = market beta of daily stock price, a proxy for risk

U_{it} = error term at the year

4. The Findings

4.1 Results of Data Normality Test

The findings of the stationary normality test in Table 2 depict the individual normality distribution.

Table 2: Individual normality test statistics of pyramid structure firms

Variable	Mean	Median	Standard Deviation	Skewness	Kurtosis	Jarque-Bera
AR	0.1356	0.1508	0.3213	0.3468	3.46601	4.45198 (0.10796)
EPS	0.2522	0.0035	0.4978	1.9002	5.7676	140.9003 (0.0000)
GROWTH	0.9919	0.1300	1.4136	1.3992	3.8791	54.84871 (0.0000)
SIZE	4.7070	0.0000	5.3746	0.5598	1.7838	17.42061 (0.0000)
DEBT	0.7944	0.8977	0.2832	-2.2230	6.4717	202.8538 (0.0000)
RISK	0.8074	0.8102	0.3553	-0.1387	2.7337	0.9425 (0.6242)
CFR	21.9608	22.000	10.2321	0.4412	2.6877	5.5854 (0.0613)

Note. P-values are in the parenthesis.
AR=Annual stock return, EPS=Annual earnings p/share (EPS), GROWTH=Growth, SIZE=Size, DEBT=Debt, RISK=Risk, CFR=Level of cash flow right

Generally, some of the sample data are not normally distributed. The data are considered normal if the standard skewness is within ±1.96 and standard kurtosis of ±2 (Garson 2004) and (Nor Hashimah, Sharifah, Bakhtiar & Noraida 2008). Referring Column 5 in Table 2 on the value of standard skewness, only 1 variable, (DEBT) is not normally distributed contrary with the value of kurtosis reported (Column 6 of Table 2), which only 1 variable (SIZE) is normally distributed. Finally, the value of Jarque-Bera statistics in Column 7 reveals that only RISK variable is not significant. Meanwhile, the other variables (AR and CFR) are significant at 10% level and (EPS, GROWTH, SIZE, DEBT) at 1% level respectively.

4.2 Pearson's Correlation Test

The Pearson's correlation is employed to examine the multicollinearity problem among the variables. Table 3 shows that all the absolute values of Pearson's correlation coefficients are relatively low and less than 0.8. This indicates that the multicollinearity problem is not critical for the model developed (Gujarati 2003). Hence, the analysis may proceed with the selected variables.

Table 3: Pearson's correlation test of model

	AR	EPS	GROWTH	SIZE	DEBT	RISK
EPS	0.107					
	(0.187)					
GROWTH	0.146	-0.023				
	(0.071)*	(0.778)				
SIZE	-0.090	0.075	0.657***			
	(0.269)	(0.360)	(0.000)			
DEBT	-0.142	-0.133	0.213***	0.264***		
	(0.079)*	(0.100)	(0.008)	(0.001)		
RISK	0.071	-0.177**	0.196***	0.143*	0.055	
	(0.384)	(0.029)	(0.015)	(0.078)	(0.496)	
CFR	-0.087	0.143	0.043	0.075	-0.030	-0.094
	(0.284)		(0.597)	(0.360)	(0.715)	(0.248)
		(0.079)*				

***significant at 1% level, **significant at 5% level, * significant at 10% level
Number in parentheses indicates p-value.

4.3 Results of Heteroskedasticity Test and Autocorrelation Test

Table 4 shows the results of White's General Heteroskedesticity test and Autocorrelation test. The results of F-test is fail to reject the null hypothesis. This suggests that the error variance is constant, meaning that there is no heteroskedasticity problem. In addition, the use of Panel Generalised Least Square (GLS) estimation which simultaneously incorporating White's General Heteroskedasticity test is consistent with Standard Errors technique (Gujarati 2003), which is enables to overcome this problem. Meanwhile, Durbin-Watson (DW) test is used to detect the autocorrelation problem. The model reports that the value of the Durbin-Watson (DW) statistic is around 2. It means that the model in this study has no serial correlation (Gujarati 2003).

Table 4: White general heteroskedasticity test and autocorrelation test

Chi-Square	F-Statistics	P-Value	Durbin Watson (DW)	Reject/Accept (H_0)
18.78069	0.929074	(0.5508)	2.043688	Accept (H_0)

4.4 Results of Panel Generalised Least Square (GLS) Estimation

The empirical evidence presented in this study provides findings consistent with the hypothesis that the level of cash flow rights (CFR) of the ultimate owner affects the earnings-return relation. Specifically, this model tests the relationship using earnings reported by pyramid structure firms with higher level of cash flow rights (CFR). In order to confirm and support the regression result of this model, this study then retests the earnings-return relation using earnings reported by pyramid structure firms with lower level of cash flow rights (CFR).

4.4.1 Earnings-Return Relation and Higher Level of Cash Flow Rights (CFR)

Table 5 presents the panel generalised least square estimation results of Model 1. This study intends to ascertain whether higher level of cash flow rights (CFR) of ultimate owner will reduce agency problem since it lessens the separation of cash flow rights (CFR) and control rights (CR). The motivation or opportunity for unethical behaviour (i.e. agency problem) among the ultimate owner arises through the separation of cash flow rights (CFR) and control rights (CR). Thus, any mishap of the ultimate owner will not have a significant impact since the actual investment over the firm in the pyramid structure is small. In other words, the pyramidal structure would somehow protect ultimate owner's interest from any negative consequences from exploitation or unethical behaviour.

With this idea in mind, this study determines the earnings-return relation and higher level of cash flow rights (CFR) that will limit the entrenchment of the ultimate owner to manipulate earnings information in the pyramid structure firms. The negative consequences from ultimate owner misconduct will give a significant impact since their investment over the firm in the pyramidal structure is bigger. So, when there is higher level of cash flow rights (CFR), it can help to overcome the negative effects of the structure, which in turn will increase the value relevance of earnings information reported.

As mentioned earlier, all the pyramidal structure firms are ranked according to the level of cash flow rights (CFR) (highest to lowest). Then, the firms with the highest cash flow rights (CFR) in the ranking are taken as sample for Model 1. Model 1 specifically examines the earnings-return relation of pyramid structure firms where the ultimate owner has the highest level of cash flow rights (CFR) in the sample covered. Thus, the level of earnings examined (EPSHCFR) are the earnings reported by pyramid structure firms with the highest level of cash flow rights (CFR) held by the ultimate owner.

Table 5: Result of panel generalised least square estimation (Model 1)

Variable	Coefficient	Std. Error	t-Statistic
EPSHCFR	0.055878	0.016883	3.309787***
GROWTH	0.127797	0.057316	2.229686**
SIZE	-0.000484	0.004133	-0.117140
DEBT	-0.052054	0.053097	-0.980359
RISK	-0.148295	0.087998	-1.685202*

R-squared	0.155233
Adjusted R-squared	0.140080
Durbin-Watson stat	2.043688
S.E. of regression	0.652808

***significant at 1% level, **significant at 5% level, * significant at 10% level

Based on Table 5, the value of adjusted R^2 reported is 14.0%. Consistent with the hypothesis, the coefficient of earnings reported by pyramid structure firms with the highest level of cash flow rights (CFR) of ultimate owner (EPSHCFR) appear to be positive and significant at 1% level. This result reflects that expropriation motivation of ultimate owner on firms in the pyramidal structure can be lessened when the separation of cash flow rights (CFR) and control rights (CR) is reduced. With high cash flow rights (CFR), the control that the ultimate owner has over the pyramidal structure does not entrench them and this will lower the agency problem between them and minority shareholders. Lower agency problem consequently may help to improve the earnings-return relationship.

For the control variables, growth reports a significant relationship at 5% level. The result is consistent with Collins & Kothari (1989) findings. This suggests that when there is higher market to book assets, the expected earnings growth or earnings persistence becomes larger which in turn leads to stronger earnings-return relation.

4.4.2 Earnings-Return Relation and Lower Level of Cash Flow Rights (CFR)

As mentioned earlier, Model 1 specifically focuses on the earnings-return relationship on pyramid structure firm where the ultimate owner holds the highest cash flow rights (CFR). Consistent with the theory, the results report that higher cash flow right has a significant positive relationship with earnings-return, which in line with the theory.

Model 2 encompasses pyramid firms with the lowest level of cash flow rights (CFR). Theoretically, lower level of cash flow rights (CFR) causes lower value relevance of earnings information since the wider separation between cash flow rights (CFR) and control rights (CR) provides an opportunity for the ultimate owner to act in negative ways. The wider the separation of cash flow rights (CFR) and control rights (CR) of ultimate owner, the more protection and effective control they will get from the pyramid structure. As their control increase while the cash flow rights (CFR) is low, higher agency problem will arise between the ultimate owner and minority shareholders and this situation will cause value destruction and reduce the earnings reported by such firms.

Table 6 presents the panel generalised least square estimation results of Model 2 that examines the earnings-return relation of pyramid structure firms where the ultimate owner has the lowest level of cash flow rights (CFR) in the sample covered.

Table 6: Result of panel generalised least square estimation (Model 2)

Variable	Coefficient	Std. Error	t-Statistic
EPSLCFR	0.064751	0.055572	1.165172
GROWTH	0.038781	0.033354	1.162710
SIZE	-0.003438	0.004679	-0.734678
DEBT	-0.017415	0.089487	-0.194611
RISK	-0.063940	0.062998	-1.014954

R-squared	0.020204
Adjusted R-squared	0.002629
Durbin-Watson stat	2.127370
S.E. of regression	0.555390

***significant at 1% level, **significant at 5% level, * significant at 10% level

It is clearly reports that the adjusted R^2 value of Model 1 (Table 5 on higher level of cash flow rights (CFR)) is higher as compared to Model 2 (Table 6 on lower level of cash flow rights (CFR)) with difference of 13.74%. Specifically, the results suggest that lower level of cash flow rights (CFR) weaken the positive earnings-return relations. The coefficient of earnings reported by pyramid structure firms with the lowest cash flow rights (CFR) of ultimate owner is insignificant. The result is consistent with the idea that higher level of cash flow rights (CFR) strengthens the positive earnings-return relationship. In contrast, lower cash flow rights (CFR) weakens the earnings-return relationship.

5. Summary and Conclusions

The present study reveals that higher level of cash flow rights (CFR) can reduce the negative effect of the pyramid structure that arises from the separation of cash flow rights (CFR) and control rights (CR) (Fan & Wong 2002). Increasing the level of cash flow rights (CFR) in the pyramid structure firm also help to increase the value relevance of earnings reported. It is expected to reduce the opportunity of the ultimate owner to act unethically from the separation of cash flow rights (CFR) and control rights (CR), which is entrenched the ultimate owner with ultimate control. Reducing manipulation opportunity and entrenchment effect of the ultimate owner can overcome agency problems with minority shareholders and thus, increasing the value relevance of earnings reported by pyramid structure firms.

This study analyses the effect of ultimate owner's level of cash flow rights (CFR) on earnings-return relation. Pyramidal firms in the sample are ranked according to the level of cash flow rights (CFR) (highest to lowest) and are divided into those with the highest and the lowest level of cash flow rights (CFR). The coefficient of earnings reported by pyramid firms with the highest level of cash flow rights (CFR) is positive and significant as reported in Model 1. The result implies that the value relevance of earnings reported by such firms is high (at 1% level) when the separation of cash flow rights (CFR) and control rights (CR) is reduced. In contrast, the coefficient of earnings in Model 2 is insignificant for the pyramid structure firms with the lowest cash flow rights (CFR) of ultimate owner. The findings reveal that higher level of cash flow rights

(CFR) in the hand of ultimate owner can reduce the separation of cash flow rights (CFR) and control rights (CR). Hence, it increases the value relevance of earnings reported by reducing the ultimate power and entrenchment effect of ultimate owner which leads to the opportunity on negative effects.

This study provides a useful and significant contribution to the existing value relevance and pyramid ownership literature. From the findings, it is suggested that there should be a minimum threshold portion of cash flow rights (CFR) for ultimate owner over the firm at the lowest chain of the pyramidal structure. This threshold needs to be set up in order to reduce the separation of cash flow rights (CFR) and control rights (CR) of ultimate owner, which in turn will reduce the negative influence of the structure itself, thus increasing the value relevance of earnings information. Ascertaining the level of cash flow rights (CFR) of the ultimate owner on the value relevance of earnings information is crucial as viable investment activities by investors require relevant and reliable information. Furthermore, we need to bring back investors' confidence towards information provided by pyramidal firms since their significance roles in Malaysian economy. Other than that, the findings also may imply stricter disclosure rules and governance standards which are essential to be imposed. For instance, accounting policy makers need to emphasize on accounting standards, rules and disclosure that focus on pyramid structure particularly among Malaysian public listed firms in order to increase the value relevance of earnings information.

The study suffers from the following limitations. First, the study only focuses on Malaysia, thus the result cannot be generalized to other countries. A bigger sample could be undertaken to make the conclusion more reliable, accurate and comprehensive. Second, while the design of the study mitigates the endogeneity problem, it inevitably reduces the size of the sample which may impair the validity of the tests. Third, this study faces limitation in the construction of database of Malaysian pyramid firms. There is no specific database for pyramid firms in Malaysia. Therefore, all pyramid firms from the list of all firms listed in the main market of Bursa Malaysia Berhad (BMB) need to be identified carefully. Finally, this study specifically focuses on value relevance of earnings information, not accounting information as a whole. The reason being it extends the findings by Fan & Wong (2002) which specifically focuses on earnings informativeness of pyramid structure firms. Further research is suggested to test whether the same conclusions can be applied to different countries, as well as to what extent results are robust to different definitions of value relevance of earnings information for pyramid structure firms.

Acknowledgements

We would like to extend our sincere appreciation to Ministry of Higher Education (MOHE) for providing Fundamental Research Grant Scheme (FRGS grant) (vote no = 600-RMI/SSP/FRGS 5/3 Fsp (80/2010) led by Prof. Dr. Norhana Salamudin of Universiti Teknologi MARA and also Research Management Institute (RMI) for facilitating the project.

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