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The Influence of Ownership Structure on the Firms Dividend Policy Based Lintner Model

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This study investigates the relationship between types of ownership structure and dividend payments of Malaysian listed companies. A cross-sectional analysis of 100 sample firms listed on the main board of Bursa Malaysia for the years 2010 is utilized. The study examines the explanatory power of two alternative models of dividend policy, the full adjustment model and the partial adjustment model modified which are moderated by the possible effects of five types of ownership structure, namely ownership concentration, ownership dispersion, institutional ownership, managerial ownership and foreign ownership. Only ownership concentration variable are found to be positively and statistically significant in influencing dividends in both type of dividend model. The finding is consistent with agency theory since high dividend payments can be used for mitigating agency conflict as dividends can be substituted for shareholder monitoring. Further, the empirical results reveal that the partial adjustment model is better in compared to the full adjustment model in explaining the variation in dividends with variables associated with ownership classes.

1. Introduction

Dividends are payments made by a company to its shareholders, usually after a company earns a profit. Thus, dividends are not considered as a business expense but are a sharing of recognized assets among shareholders. Dividend policy is an essential financial decision made by the board of directors and the management and this decision is one of the fundamental components of corporate policy. In Malaysia, companies are free to decide when and how much to pay out in dividends for a specific financial business year as long as they comply with the Companies Act, 1965.

Dividend policy has been viewed as an issue of interest in the financial literature and one of the most controversial topics in finance. Although a large body of literature on dividends and payout policy, researchers have yet to reach a consensus on why firms pay dividends and what determines the payout ratio. The absence of an adequate theory to explain the observed effect of a firm's dividend policy on its value is cogently stated by Black (1976) who argue that the "dividend controversy" is of the ten unsolved problems in finance that are "ripe for productive research".

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Taking into consideration various capital market imperfections, a considerable amount of theory and model are suggested to explain the dividend policy of companies. Signalling models are based on the assumption that managers have more information about the company's future cash flow than do individuals outside the company, and they have incentives to signal that information to investors (Gugler 2003). Unexpected changes in dividend policy are used to mitigate information asymmetries between managers and owners (Frankfurter and Wood Jr. 2002). On the other hand, agency theory posits that by distributing resources in the form of cash dividends, internally generated cash flows are no longer sufficient to satisfy the needs of the companies. As a result, companies will visit the capital market more frequently for financing needs; thereby bring them under the greater scrutiny of the capital market (Easterbrook 1984). Therefore, the payment of dividends provides the incentive for managers to reduce the costs associated with the principal/agent relationship.

Nowadays, extensive research has been carried out regarding the issue of agency costs of dividends and the standard findings shows that dividends mitigate the "free cash flow" and therefore limit the manager's ability to enlarge his or her own perks. Despite a great deal of prior research on the subject, few studies investigated the agency and ownership-based explanations of dividend policy. It is also important to note that the extent to which the company's dividend payout policy is effective in reducing the expected agency costs may also depend on its ownership and control structure. Short *et al*. (2002) and Bhattacharyya and Elston (2009) assert that the ownership framework tend to vary across countries, however, most of researchers extensively explored in US and UK firms only (Rozeff, 1982; Jensen *et al*., 1992; Eckbo and Verna, 1994, among others). Therefore, this area of research is largely neglected.

Nevertheless, one study by Mat Nor and Sulong (2007) had examined the relationship between ownership structure and dividends in Malaysia. They had used four types of ownership, namely ownership concentration, government ownership, foreign ownership and managerial ownership. However, their findings show a low explanatory power (between 0.118 and 0.124). On the other hand, a study in UK by Short *et al.* (2002) that examined the link between corporate dividend policy and the ownership of shares by institutional investors and managers, using Lintner models' found a very high explanatory power (between 0.843 and 0.993). Their study is the first example of using well-established dividend payout models to examine the potential association between ownership structures and dividend policy. Their model describe the adjustment of dividends to changes in several measures of corporate earnings, have been modified by the addition of dummy variables representing institutional and managerial ownership, in order to determine whether the presence of the specific classes of investors in the ownership structure affect the process of determination of the level of the earnings that are being distributed.

Thus, this situation brings up a question whether it is true that ownership structure has a low impact on corporate dividend policy in Malaysia or whether the result will change if Lintner models' apply since Short *et al.* (2002) found a very huge correlation when the model is used. Therefore, this study attempts to examine the hypothesized relationship between corporate dividend policy and the various types of ownership structure by using dividend payout models. Besides that, ownership structure in Malaysia is highly concentrated and hence the relevant agency problem

to analyse seems to be the one that arises from the conflicting interests of large shareholders and minority shareholders.

This study contributes to the growing body of survey research on dividend policy. For example, the current study not only updates previous research by Mat Nor and Sulong (2007) but is also applied in a different model, namely, the Full Adjustment Model and the Partial Adjustment Model. These two types of dividend models had been modified to account for the possible effect of ownership structure and dividend policy. This study utilizes these two types of dividend models since it was found from previous research that dividend models can have the significant effect on ownership structure.

The next section of the study briefly reviews the theoretical and empirical literature. Then, the third section describes the data, develops the theoretical model and also discusses the research framework. Section four will reveal the empirical results while the summary and conclusion of the study are presented in section five.

2. Literature Review

2.1 Theoretical Literature

The seminal work on dividend policy was initiated in 1961 by Miller and Modigliani (M&M), proposed that dividend policy was irrelevant. Therefore, any changes made in dividend policy make no different to firm value since a stockholder can replicate any desired stream of payments by purchasing and selling equity. However, several assumptions were made, including: no personal or corporate taxes; no stock flotation or transaction costs; financial leverage has no effect on the cost of capital; investors and managers have asymmetry information about the firm's future prospect; and distribution of income between dividends and retained earnings has no effect on the firm's cost of equity (Foong *et al.* 2007). The main conclusion of this paper is that firm's capital budgeting policy is independent of its dividend policy. M&M's proposition was strongly supported by Friend and Phuket (1964) and Black and Scholes (1974).

Nevertheless, subsequent literature advances several theoretical justifications for firms' payout choices. One branch of this literature has focused on an agency-related rationale for paying dividend policy. The agency models of payout relax the original M&M's assumption about the independence of dividend and investment policies of the firm. According to Jensen and Meckling (1976), the origin of agency theory lies on the separation of ownership and control. The discrepancy between the value of the 100 percent owner-managed and less than 100 percent owner-managed firm is a measure of the agency cost. Jensen and Meckling defined agency relationship as a contract under which one or more persons (principal) engage another person (agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. If both parties to the relationships are utility maximizers, there is good reason to believe that the agent will not always act in the best interests of the principal.

According to Moh'd *et. al* (1995), agency theory relates to dividend policy stems from the works of Rozeff (1982) and Easterbrook (1984). Rozeff adapt the agency theory

argument of Jensen and Meckling by constructing a model in which dividends serve as a mechanism for reducing agency costs, thus offering a rationale for the distribution of cash resources to shareholders. According to Rozeff, if a firm is forced to raise external capital to replenish funds paid out in dividends, then managers must reduce agency costs and reveal new information in order to secure the new funding. Moreover, a dividend payment may act as one form of bonding mechanism to lessen agency costs because it reduces the opportunity for managers to use firm cash flow for perquisites activities.

On the other hand, Lintner (1956) is among the pioneers to theorise on corporate dividend behavior through Lintner stability dividend theory. Lintner had conducted a classic series of interviews with 28 corporate managers about their dividend policy. He then proceeded to formulate a seemingly logical model of how companies decide on dividend payments. Dorsman, *et.al* (1999) summarized Lintner's survey in four "stylised facts". First, firms have long-term target dividend payout ratios. Second, managers focus more on dividend changes than on absolute levels. Third, dividend changes follow shifts in long-term, sustainable earnings. This trend implies that managers tend to "smooth" dividends so that changes in transitory earnings are unlikely to affect dividend payments over the short term, and lastly, managers are reluctant to make changes to dividends that might have to be reversed. They are particularly concerned about having to rescind a dividend increase.

Based on these conclusions Linter developed a model, which has become known as the Lintner model, to explain the change in dividends each year. One assumption in this model is that managers will try to pay an amount of dividends that is an optimal percentage of the profit made. This is explains for the equation:

$$D^*_{ti} = rE_{ti} \qquad (1)$$

with,

D^*_{ti} = the target level dividend of dividend for fund *i* year *t*.
r = the optimal amount of dividend as a percentage of the profit, for fund *i*.
E_{ti} = the profit company *i* made in year *t*.

The value of *r* will be between 0 and 1 since companies usually won't pay more dividends then that there was profit. When the profit changes the actual amount of dividend paid differs from the optimal amount that follows out of *(1)*. To compensate for this difference the company will gradually adjust the dividends. This is what can be seen in the next equation namely as Lintner full adjustment model:

$$D_{ti} - D_{(t-1)i} = c(D^*_{ti} - D_{(t-1)i}) \qquad (2)$$

with,

c = Velocity at which a company adjusts the dividend

The velocity (*C*) will be between 0 and 1. Higher values of *C* correspond to higher velocity in adjusting the dividends. Lintner also introduced a constant term. Because it is assumed that corporations are reluctant to decrease dividends, this constant

term would have to be positive. This constant term together with equations *(1)* and *(2)* form the Lintner partial adjustment model:

$$D_{ti} - D_{(t-1)i} = a + \beta_{i1} D_{(t-1)i} + \beta_{i2} E_{ti} + \mu_{ti} \quad (3)$$

with,

β_{i1} = $-C_i$
β_{i2} = $C_i r_i$
μ_{ti} = The random disturbance

2.2 Empirical Literature

Ang, Cole and Lin (2000) measure absolute agency costs by observing a zero agency-cost base case as a reference point of comparison for all other cases of ownership and management structures. Based on the Jensen and Meckling (1976) agency theory, the zero agency cost base is the firm owned solely by a single owner-manager. When management owns less than 100 percent of the firm's equity, shareholders incur agency costs resulting from management's shirking and perquisite consumption. They employ a sample of 1708 small corporations and provide a direct confirmation of the predictions made by Jensen and Meckling (1976). Agency costs are indeed higher among firms that are not 100 percent owned by their managers, and these costs increase as the equity share of the owner-manager declines. Hence, agency costs increase with a reduction in managerial ownership, as predicted by Jensen and Meckling.

Manos (2002) had investigated the agency theory of dividend policy in the context of an emerging economy, India. He had modified the Rozeff's cost minimization model by introducing a business group affiliation namely foreign ownership, institutional ownership, insider ownership and ownership dispersion as a proxy for agency cost theory. The results reveal a positive impact of all business group affiliation to payout decisions. The positive relationship between foreign and payout indicates that the greater the percentage held by foreign institutions, the greater the need to induce capital market monitoring. Besides that, capital market monitoring is also important when the dispersion of ownership increases since the more widely the ownership spread, the more acute the free rider problem, hence, the greater need for outside monitoring. Further, the evidence of a positive relationship between institutional and the payout ratio is consistent with the preference for dividends related prediction.

Study by Short et.al (2002) is the first example of using well-established dividend payout models to examine the potential association between ownership structures and dividend policy. They had modified the Full Adjustment Model, the Partial Adjustment Model (Lintner 1956), the Waud Model (Waud 1966) and the Earnings Trend Model. Moreover, the paper presents the first results for the UK, where the institutional framework and ownership structures are different from the US. The result from the four dividends models consistently shows positive and statistically significant associations between institutional ownership and dividend payout ratios and thus suggests a link between institutional ownership and dividend policy.

The study by Khan (2006) investigates how the ownership structure of firms affects their dividends policies. A key contribution of this article is that it exploits extremely

rich ownership data on all beneficial owners (individuals, insurance companies, pension funds and other financial institutions) holding more than 0.25% of any given firm's equity. A significantly negative relation between dividends and ownership concentration result appear to corroborate Rozeff's model, dividends fall when the degree of ownership of ownership concentration increase, which is generally associated with better incentives to monitor. However, the positive relationship between dividends and insurance companies would suggest that they are relatively poor at monitoring compared to individual investors. These results imply particularly acute agency problems when insurance company shareholdings is high and provide some support for the views expressed in the various governance reports.

Harada and Nguyen (2006) analyze the effect of ownership concentration on the dividend policy of Japanese firms. Consistent with Khan (2006), they find that firms with high ownership concentration pay lower dividends. Their analysis uncovers a number of agency conflicts. First, tightly controlled firms are less likely to increase dividends when profitability increases and when operating profits are negative. This pattern is consistent with their lower payout and the assumption that dominant shareholder extract private benefits from resources under their control. Second, they also find that tightly controlled firms are more likely to omit dividends when investment opportunities improve which protect the interest of current shareholders. Clearly, this decision reduces the likelihood of requiring further funding that would benefit outside investors.

Mancinelli and Ozkan (2006) report on empirical investigations into the relationship between the ownership structure of firms and the firm's dividend policy using Italian listed companies. Ownership structure in Italy is highly concentrated; hence the relevant agency problem of concern seems to be the one that arises from the conflicting interests of large shareholders and minority shareholders. The Tobit regression results support the prediction that higher level of ownership concentration is associated with a higher probability of expropriation of outside shareholders. There are private benefits to the larger shareholders of holding larger amounts of cash; lower dividend payouts will increase the ability of the large shareholders to expropriate the outside minority shareholders. Furthermore, their findings also provide some support for the prediction that managers prefer to hold resources under their control rather than distributing returns to shareholders.

Cook and Jeon (2006) investigate the determinants of foreign and domestic ownership and a firm's payout policy. The results support the agency model, higher foreign ownership is associated with a greater dividend payout. Domestic intuitional investors, however, do not play a prominent role in a firm's payout policy. Thus, they conclude that foreign investors are more active monitors of corporate by reducing agency problems and leading firms to increase the level of payouts.

The study by Mollah *et. al* (2007) investigate the influence of agency cost variables on dividend policy during the pre and post of the 1998 financial crisis. The paper measures the effect of the percentage of insider ownership, dispersion of stockholders, free cash flow and degree of collateralizable assets on the dividend payout ratio. Nevertheless, the study finds agency cost variables to have only a modest explanatory power during the pre-crisis period and none in the post-crisis period. This result might be due Bangladesh firms having highly concentrated ownership structure, thus an agency cost is insignificant in influencing the dividend

policy. The failure of agency cost variables to influence dividends may indicate an impediment to efficient capital information. This failure captures an aspect of an emerging market such as Dhaka that differs fundamentally from more evolved markets.

Mat Nor and Sulong (2007) investigate the relationship between types of ownership structure and dividends on the main board of Bursa Malaysia for the years 2002 and 2005. The results reveal that concentration ownership has a significant positive effect on dividends for both years, but with minimum impact. Results of foreign and managerial ownership on dividends show insignificant relationship in the year 2002, but the results are significant effect on dividends in 2005. The significant positive relationship of managerial ownership with dividends implies that insider shareholdings provide greater incentives for the alignment of management and shareholders' interest resulting in higher dividends. The results also suggest that managerial ownership does play an active monitoring role in Malaysia, one of the emerging economies to mitigate potential managerial discretionary behavior and free cash flow problems. Nevertheless, the negative significant effect of foreign ownership on dividends fails to support the agency argument.

Obema *et. al* (2008), examine the effect of ownership structure on corporate dividend policies of a sample of top Egyptian listed companies. Ownership structure is measured by four variables namely managerial ownership ratio, blockholder ownership ratio, institutional ownership ratio and free float ratio. The results show that only institutional ownership has a significant relationship with dividend policy. One explanation could be that the institutional blockholders voted for higher payout ratios to enhance managerial monitoring by external capital markets.

The study by Kouki and Guizani (2009) analyze the influence of shareholder ownership identity on dividend policy. This study uses dividend per share as a dependent variable and ownership classes as an independent variables. The results indicate that there is a significantly negative correlation between institutional ownership with the level of dividend distributed to shareholders. This is due to most of cases, institutional investors are banks, and they are either shareholders or debt holders. They prefer paying interests to themselves than distribute dividend to all shareholders. Further, the results also show that the higher ownership of the five largest shareholders leads to the higher of dividend payment. They conclude that dividend rates are higher when there are multiple large shareholders suggesting that these large shareholders dampen expropriation. This evidence strengthens the argument of the positive role of multiple large shareholders in corporate control.

Harjito (2009) examine the influences of agency factors to dividend payout ratio. This research tries to define an appropriate mechanism to decreasing agency cost which represent by dividend payout ratios policy. The results reveal a significant negative effect of insider ownership on dividend policy. This implies that dividend payment is rise in order to decrease agency problem when there is separation function between corporate ownership and corporate control. Nevertheless, institutional ownership influence dividend payout negatively which is contradict with the agency argument. This might be due to institutional ownership tend to do other investment or expand their business that to pay shareholders. This condition is supported by the better economic atmosphere of Indonesia, which offers good opportunities to invest.

Al-Najjar (2009) investigates the decision of firms' dividend policy and found the consistent result with agency theory that dividend policy is affected by institutional ownership. Besides that, he also found that Lintner model is valid, and hence firms have their target payout ratios and they adjust to achieve the target.

Afza (2010) investigates the impact of firm specific characteristics on corporate dividend behavior in emerging economy of Pakistan. The results reveal that managerial and individual's ownership has significant and negative relationship with dividend payout. In Pakistan management practices are not strongly monitored by corporate law authorities, that is why corporate managers seem to have greater tendency to increase funds under their control at the expense of low dividend payouts. Besides that, Pakistani taxation system charge double taxation on dividend whiles no tax on capital gain. Therefore, it is not surprising to note that investors, especially individuals having small holdings prefer capital gain over dividends.

Harada and Nguyen (2011) examine the role of ownership concentration on the dividend policy. The result reveal the contradict hypothesis that dividend policy is used to enhance financial discipline and could therefore be used as a substitute for shareholder monitoring. In fact, firms with concentrated ownership, which are supposed to be closely monitored, distribute less cash. This pattern suggests that large shareholders do not actively use dividends to control potential free cash flow problems, contrary to what the monitoring hypothesis posits.

Although many research had been conducted regarding dividend policy and ownership structure, but the result still inconclusive. Additionally, only Short *et al.* (2002) had used Lintner models' to find the correlation between UK dividend policies' and ownership structure. Impressively, they found a very high explanatory power (between 0.843 and 0.993). Therefore, this study will apply Linter models' since Mat Nor and Sulong (2007) found only a minimum impact when they regress ownership classes towards Malaysia dividend policies'. This study tries to find whether the result will be changed if different methodology is used.

3. Data and Methodology

The sample for the study includes 100 companies from four of the largest sectors (consumers, industrial, trading and services and properties) on the Main Market of Bursa Malaysia whose annual reports are available for the year 2010. These companies are selected based on proportionate stratified random sampling. Therefore, these companies are expected to be a representative of the four largest sectors in Bursa Malaysia.

This study utilised dividends, earnings and different types of ownership structure data. The dividend and earnings variables were retrieved from DataStream financial database. In addition, data on ownership was hand-collected from sample companies' annual reports. These annual reports are gathered from the website of Bursa Malaysia and individual companies. This pooled cross-sectional study employs annual data from 2009 to 2010.

3.1 Variables of the Study

Based on the review of literature, theoretical and empirical, the impact of ownership structure on corporate dividend policy can be examined through the relationship between selected ownership variables and dividend policy. The ownership variables identified from the literature are ownership concentration (CONC), ownership dispersion (DISP), institutional ownership (INST), managerial ownership (MNG) and foreign ownership (FOR).

Following Hansen *et al.* (1994), Khan (2006), and Harada and Nguyen (2011) ownership concentration was measured by the Herfindahl Index 5 (HI5), that is, the squared sum of shares in the hands of the five largest shareholders. In concentrated ownership companies, large shareholders could find less need for using dividends as a disciplining mechanism if they have strong board representation (Renneboog and Szilagyi 2006). On the other hand, according to La Porta *et al*. (2000a) larger controlling shareholders could expropriate corporate wealth from other minority shareholders and enjoy private benefits instead of distributing dividends to shareholders. Therefore, to circumvent the problem a positive relationship was expected between ownership concentration and dividends.

The greater the number of shareholders will lead to the greater dispersion of ownership. Hence, agency costs will increase and the need for monitoring managerial action also increases. If dividends can alleviate this problem, a positive relationship between ownership dispersion and dividend is expected. Following Alli *et al*. (1993), ownership dispersion is defined as the ratio of the number of shareholders to total outstanding shares.

Further, Amidu (2006) and Kouki and Guizani (2009) defined institutional ownership as a percentage of equity owned by institutional investors such as insurance companies, unit trusts, mutual funds, pension funds and financial companies. Nevertheless, this study used the total percentage of institutional ownership in a list of the thirty largest shareholders as the measure of INST. Large institutional investors are more willing and able to monitor corporate management than are smaller and more diffuse owners since the benefits of monitoring are more likely to exceed the costs for these shareholders. Thus, a positive relationship was anticipated between institutional ownership and dividends.

According to agency theory, managerial ownership has a potential to align the interest between managers and shareholders (Jensen and Meckling, 1976). However, if a larger percentage of common shares are in the hands of managers, there will be less influence from outsiders. In such case, management will tend to increase their own benefits such as increase director's fees, employees' salaries and bonuses, rather than pay dividends. Besides, since the purpose of managerial ownership is the same as dividend policy, which is to reduce agency costs, it will be ineffective to use two tools at the same time for the same problem. Hence, dividends will be hypothesized to be negatively related with managerial ownership. Following Mat Nor and Sulong (2007), managerial ownership was measured by adding the total percentage of shares directly held by non-independent executive directors in the company.

Besides that, Mat Nor and Sulong (2007) was identified the sum of all shares in the hands of foreign shareholders in the list of thirty largest shareholders, either held through nominee companies or other corporate foreign share holdings to calculate the total percentage of foreign shareholdings (FOR). According to agency theory, foreign investors who are well-informed and hold a substantial share can play their monitoring role on management and reducing the agency costs, and therefore, companies are more likely to increase dividends (Easterbrook, 1984; Jensen, 1986). Thus, a positive relationship was therefore expected between foreign ownership and dividends.

3.2 Models

Following the methodology of Short *et. al* (2002), two dividend models from Litner (1956) were used to test the hypothesis of positive link between ownership structure and dividend policy: the Full Adjustment Model and the Partial Adjustment Model. These models describe the adjustment of dividends to changes in several measures of corporate earnings. Nevertheless, both models have been modified to account for the possible effects of ownership structure in determining the level of the corporate dividend. Although this study follow Short *et. al* (2002), but this study was different since it has adds another three variables which not been used by Short *et. al* (2002) namely ownership concentration (CONC), ownership dispersion (DISP) and foreign ownership (FOR). These variables had been found have a significant effect towards dividend distribution but had been neglected by Short *et. al* (2002).

According to the full adjustment model, changes in earnings are considered as permanent. Therefore, companies will adjust their dividends (*D*) to the new level of earnings (*E*) to achieve the companies' desired payout ratio (*r*). Consequently, the relationship between the changes in earnings and changes in dividends, for company *i* at time *t*, is given by:

$$D_{ti} - D_{(t-1)i} = \alpha + r(E_{ti} - E_{(t-1)}) + \mu_{ti}$$

The hypothesis that ownership structures affect dividend policy means that companies target payout ratio (*r*) for different levels of ownership classes. Therefore, in this case, the model becomes:

$$D_{ti} - D_{(t-1)i} = \alpha + r(E_{ti}-E_{(t-1)}) + r_{CONC}(E_{ti}-E_{(t-1)})*CONC + r_{DISP}(E_{ti}-E_{(t-1)})*DISP + r_{INST}(E_{ti}-E_{(t-1)})*INST + r_{MNG}(E_{ti}-E_{(t-1)})*MNG + r_{FOR}(E_{ti}-E_{(t-1)})*FOR$$

(Model 1, FAM)

The partial adjustment model assumes that the desired level of dividends (D^*) for company *i* at time *t* is related to its earnings (*E*), according to the target payout ratio (*r*):

$$D^*_{ti} = rE_{ti}$$

Nevertheless, the company adjusts only partially to the target dividend level. In contrast, firms move towards the desired level of distribution gradually and dividends adjust only partially to the changes in earnings. As a result, the model takes the form:

$$D_{ti} - D_{(t-1)i} = a + c(D^*_{ti} - D_{(t-1)i}) + \mu_{ti}$$

Where *a* is a coefficient representing the refusal of managers to reduce dividends, whereas *c* is the speed of an adjustment coefficient that represents the extent to which the management wishes to 'play-safe' by not amending to the new target immediately.

Assuming that companies with significant ownership classes have different target payout ratios (*r*), the model becomes:

$$D_{ti} - D_{(t-1)i} = \alpha + crE_{ti} + cr_{CONC}E_{ti}*CONC + cr_{DISP}E_{ti}*DISP + cr_{INST}E_{ti}*INST + cr_{MNG}E_{ti}*MNG + cr_{FOR}E_{ti}*FOR - cD_{(t-1)i} + \mu_{ti}$$

(Model 2, PAM)

4. Result Discussion

Table 1 presents a summary of the descriptive statistics for each of the hypothesised variables for the 100 companies covered in this study. Focusing on the dependent variable, it can been seen that the standard deviation for dividends is 7.78 percent which can be considered as high, thus, it indicates a substantial variation in the amount of dividend distribution in Malaysia. This is due to some companies not disbursing any dividend while some companies distribute their dividend as high as RM 0.578 per share. The average dividend distributed among the companies in the sample is RM 0.3292 per share. While, the earning per share shows an average of RM 0.3292 with a minimum value of -RM 0.4717 and a maximum value of RM 18.25.

In terms of ownership variables, the range of firm ownership concentration represented by the percentage of ownership owned by five largest shareholders (CONC) is from 0.0096 percent to 76.57 percent, resulted the standard deviation of 14.17 percent. The mean percentage of the CONC is 15.99 percent which implies that almost 16 percent of shares ownership is concentrated in hands of five largest shareholders among Malaysian firms. In addition, the mean for ownership dispersion of zero percent and ranging from 0 percent to 0.051 percent, is another indication of highly concentrated feature of Malaysian firms.

For institutional ownership (INST), the mean percentage is about 59.9 percent which implies that more than half of share ownership is in the hands of institutional shareholders such as insurance companies, unit trusts, mutual funds, pension funds and financial companies. The range is from 4.38 percent to 97.58 percent and showed a 23.52 percent standard deviation. Further, managerial ownership (MNG) has a mean percentage of 13.08, which ranges from a low of zero percent to a 60.57 percent. Thus, a standard deviation of 17.32 percent had been recorded. Last but not least, the foreign ownership (FOR) has an average value of 5.2 percent besides has recorded a minimum of zero percent and maximum of 41.92 percent. Therefore, as high as 7.71 percent of standard deviation was recorded.

Table 1: Summary Descriptive Statistic

	Mean	Min.	Max.	Std. Dev.
Dividend	0.0499	0.0000	0.5780	0.0778
Earnings	0.3292	-0.4717	18.2500	1.8238
CONC	0.1599	0.0095	0.7657	0.1417
DISP	0.0000	0.0000	0.0051	0.0005
INST	0.5990	0.0438	0.9758	0.2352
MNG	0.1308	0.0000	0.6057	0.1732
FOR	0.0520	0.0000	0.4192	0.0771

Table 2 recapitulates Pearson correlation coefficients of the result of dividend, earnings and ownership classes as reported earlier. As expected, there is a positive significant correlation (corr = 0.503, p-value = 0.000) between dividend and earnings. The positive correlations are consistent with the signaling theory, which argues that an increment in dividends will lead to earnings increasing. Besides that, dividends are also significantly positively correlated with CONC (corr = 0.374, p-value = 0.000), indicating the possibility of this variable having predictive power on dividends and the positive relationship as theorized by the literature. Although insignificant, but the positive correlation between FOR (corr = 0.083, p-value = 0.208) and dividend was supported by previous researchers.

Among the independent variables, there is a negative correlation between earnings with ownership concentration (-0.001) and dispersion (-0.010). However, a positive correlation (0.054) between ownership concentration and dispersion was surprising. Further, the results also reveal that institutional ownership has a significant relationship with earnings and ownership dispersion. Nevertheless, earnings shows a negative correlation (corr = -0.183, p-value = 0.034) whereas ownership dispersion was vise versa (corr = 0.183, p-value = 0.034).

Table 2: Pearson Correlation Matrix among the Variables

	D	E	CONC	DISP	INST	MNG
E	0.503*					
	(0.000)					
CONC	0.374*	-0.001				
	(0.000)	(0.496)				
DISP	-0.031	-0.010	0.054			
	(0.379)	(0.461)	(0.297)			
INST	0.038	-0.183*	-0.028	0.183*		
	(0.353)	(0.034)	(0.392)	(0.034)		
MNG	0.092	0.029	0.097	-0.044	-0.133	
	(0.180)	(0.389)	(0.169)	(0.331)	(0.094)	
FOR	0.082	0.089	-0.125	-0.062	0.093	-0.056
	(0.208)	(0.189)	(0.107)	(0.271)	(0.179)	(0.291)

* Correlation is significant at the 0.05 level

The regression process commences with the identification of multicollinearity problems, followed by serial correlation and heteroscedasticity. However, the diagnostic test shows that treatment for the problems is not required since the p-values indicate that the null hypothesis cannot be rejected. The results of regression, using OLS, are presented in Table 3. The F- tests, a measure for the strength of the regression, reveals that both dividend model is significant at 5 percent (p-value = 0.000). Therefore, it can be concluded that ownership classes are vital in determining a dividend policy. In terms of the adjusted coefficient of variation (R^2), the partial adjustment model is better in explaining the variation of corporate dividend policy. The explanatory power for partial adjustment model is 13.28 percent compared than the full adjustment model is only 7.42 percent. Consistent with Mollah *et.al* (2007), a modest explanatory power might be due Malaysia firms having highly concentrated ownership structure, thus an agency cost is insignificant in influencing the dividend policy.

Table 3: Results of Multiple Regression Analysis of Dividend Policy Models

FAM		PAM	
Constant	0.00628	Constant	0.0182
	(0.5539)		(0.1842)
ECHGCONC	0.3052*	ERNCONC	0.2154*
	(0.016)		(0.007)
ECHGDISP	-235.3742	ERNDISP	-7.0894
	(0.6885)		(0.7120)
ECHGINST	0.0324	ERNGINST	0.0131
	(0.4855)		(0.5681)
ECHGMNG	-0.2564	ERNGMNG	-0.1515
	(0.6063)		(0.6432)
ECHGFOR	0.9357	ERNFOR	0.2370
	(0.4599)		(0.7009)
$D_{(t-1)}$	-	$D_{(t-1)}$	-0.1108*
	-		(0.0149)
R^2	0.1099	R^2	0.1675
Adjusted R^2	0.0742	Adjusted R^2	0.1328
F-statistic	3.0888	F-statistic	4.4475
	(0.000)		(0.000)

*Significant at the 0.05 level

T- tests show that only the concentrated ownership variable is significant for both type of dividend model. CONC were positively and significant in influencing dividends at the 5 percent critical value. This finding is consistent with the results presented by Easterbrook (1984) and Mat Nor and Sulong (2007). High dividend payments can be used for mitigating agency conflicts since dividends can be substituted for shareholder monitoring. Therefore, large shareholders have strong incentives to require higher dividend payments in order to reduce monitoring costs.

Further, managerial ownership shows a negative coefficient in the both full adjustment model and the partial adjustment model which contrary with Afza (2010), but the critical values are insignificant. The insignificant value for managerial ownership implies that Malaysian companies do not use dividends as a mechanism to reduce the agency costs between managers and shareholders. Nevertheless, this finding is consistent with the study by Mat Nor and Sulong (2007).

Institutional ownership had been found to be positively and significantly related to dividends in Alli *et al.* (1993), Moh'd *et al.* (1995) and Manos (2002). In this study, although the results reveal the expected sign in the both model, it was insignificant. Therefore, it shows that dividends in Malaysia do not have any significant relationship with institutional ownership. However, this finding is similar to the results found by Noronha and George (1996). They show that if there are alternative

devices to control for agency costs, the payout rates are not related to proxies for agency cost variables.

Besides, both model records a positive relationship between dividend payouts and foreign holdings but, the relationship is insignificant. Similar results were also found by Mat Nor and Sulong (2007). Hence, this study rejects the agency argument that foreign investors are more active monitors of corporations to reduce agency problems and leading firms to increase the level of payouts.

For ownership dispersion, both of the regression models do not only produce the unexpected sign but is also insignificant relationship. This result is contrasts to that of Rozeff (1982) and Moh'd *et al.* (1995) which concluded that the more widely the ownership spread, the more acute the free rider problem; hence to minimize the agency problem, the greater the need for dividend distribution as outsider monitoring.

Interestingly, this study reveals that $D_{(t-1)}$ is significant in influencing dividends but in a negative form. Although it shows that the last year dividend is vital in determining current dividends, but the direction of relationship contrasts with that suggested by the Lintner's (1956) theory of dividend smoothing by which claims that managers adopt a policy of progressiveness in order to stabilize dividend distributions and to avoid erratic rates. Thus, dividends are smoothed and rarely decreased.

5. Conclusion

This study was designed to examine the effect of ownership structure on corporate dividend policy. 100 companies were identified as the sample. This sample is representative for Malaysian companies, since it was selected from the four largest sectors on the Main Board of Bursa Malaysia whose annual reports were available for 2010. This study had employed the Full adjustment model and the Partial adjustment model to examine the potential associations between ownership structures and dividend policy. Five predetermined explanatory variables, namely ownership concentration, ownership dispersion, institutional ownership, managerial ownership and foreign ownership were regressed against dividends.

After a corrective analysis was conducted, the regression model of dividend change against all the independent variables revealed that each dividend model was significant at a 5 percent confidence level. However, the Partial Adjustment Model was superior, since it could explain up to 13.28 percent of the variation in dividend compared to 7.42 percent by the Full adjustment model. Nevertheless, the findings reveal that the model of research explains less than 20 percent variation of dividend phenomenon in Malaysia. Thus, it indicates the possibility that dividend policy of Malaysian companies can also be explained by other dividend theory such as signalling theory and life-cycle theory.

This study suggests that shareholders with respect to stock investment in companies should concern themselves with the agency conflict between ownership classes. Shareholders must realize that financial policies such as dividend policy can serve as a mechanism for reducing agency costs. Besides that, regulatory bodies should

also be concerned with the formation of ownership in formulating the related regulations to better control the agency conflict.

Besides that, only one explanatory variable, which is ownership concentration, was found to be statistically significant in influencing corporate dividend policy. Ownership concentration has a positive significant relationship with dividend payment. The positive relationship between ownership concentration and dividends supports the findings in Shleifer and Vishny (1986). Large share ownership provides the incentives for controlling shareholders to use their influence to maximize the value of firms by reducing resources consumed in low return projects, thus implying that more cash flows can be distributed as dividends.

Furthermore, the results prove the insignificant relationship of managerial, institutional, foreign and ownership dispersion on dividends. Therefore, it implies that these four variables are not vital in explaining dividends, hence dividend decisions in Malaysian companies are not influenced by managerial, institutional, foreign and ownership dispersion. Nevertheless, the insignificant value of these four variables in determining dividend distribution has also been found by previous researchers.

Additionally, this study reveals that $D_{(t-1)}$ is negative and significant in influencing dividends, which contrasts with the theory of dividends smoothing by Lintner (1956). According to Lintner, managers are reluctant to cut dividend payments because they believe that any cut in dividends may give negative signals about the firm in the market. Thus, dividends are smoothed and rarely declined. In this study, it is observed that the dividend decreasing trend, instead of dividend increasing trend, over time is taking place.

The lower explanatory power of the model examined in this study suggest the need of future research to focus on other dividend theories such as signaling theory, residual theory, life-cycle theory, smoothing theory and catering theory in the pursuit to understand the influence of factors on dividend policy in Malaysia. Future researchers on this topic may also use survey and interview methods to gauge top management and investor perspectives on this issue. In addition, future research may also increase the observation by incorporating companies listed in other sectors that are not included in this study. Besides that, the longer period of study may also enhance the predictability model of the research since the limitation of this study is that the data period covers only on the year 2010. The shorter period of study may not be representative of the way companies operate their business cycle. Thus, a longer period of study might be good to provide better results for this research. The findings will provide an interesting comparison to the findings from this study.

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