DIVIDEND PAYOUT OF THE PROPERTY FIRMS IN MALAYSIA

RASHID AMEER
Universiti Teknologi Mara, Malaysia

ABSTRACT

This study examines the dividend payout practices of the listed property firms in Malaysia from 1995 to 2005. The results show that dividend payments are less sticky and firms have to cut dividend payments as the operating risk increases, measured by cash flow volatility. Family ownership has a significant positive effect on the dividend policy of property firms which seems to suggest that these firms use dividend policy to reduce agency conflicts. Related diversification of the property firms has a significant influence on the dividend payout of the firms. These results contribute to the corporate governance and ownership literature in the emerging markets.

Keywords: Dividends, property firms, Malaysia

INTRODUCTION

Under the assumption of no taxes, no transaction costs, and no information asymmetry between the managers and the shareholders, the dividend policy is irrelevant to the value of a firm (Miller and Modigliani, 1961). However, a voluminous amount of literature seems to suggest that dividends matter to the shareholders. The dividend policy is relevant to a firm's value due to tax-induced clientele effect (Litzenberger and Ramaswamy, 1979); information content of dividends (Bhattacharya, 1979; Miller and Rock, 1985); and the agency costs (Jensen and Meckling, 1976). The recent addition to the determinants of dividend policy is the argument of corporate governance (Mitton, 2004) and shareholder protection (La Porta et al., 2000) in the emerging markets, in particular.

Most of the studies have almost exclusively focused on the dividend policy of the non-financial firms in the developed countries. Unlike previous studies, we examine the dividend payout policy of a particular type of firm, i.e. property developers[1]. We exploit a unique feature of property markets, i.e. once a property (residential/commercial) has been completed, it stays in the market; therefore, if the demand of the particular type of market

[1] With cross-industry data, it is difficult to distinguish between industry effects on the one hand, and the factors that determine the dividend policy on the other. By concentrating on one particular sector [here property sector], any industry effect is eliminated (Bradley et al., 1998, p. 557)

drops, it is not possible to shrink the supply to match the demand[2]. The main motivation underlying this paper is to examine the influence of the related (unrelated) diversification and ownership of the property developers on their dividend policies. We focus on Malaysia because a distinct feature of the property market in Malaysia which is described below.

PROPERTY BUSINESSES IN MALAYSIA

The property business comprises development and sale of condominiums, bungalows, linked houses, shop lots, hotels, office suites and property investment. Even some of the property firms have diversified into unrelated businesses such as providing professional services, such as investment holdings, education, medical care and hospital etc. Intuitively, diversification has implications for the risk and return on the real estate portfolio of the firms in Malaysia. Indeed, Jin et al. (2007) report that domestic returns on the real estate sector in Malaysia show the lowest Sharpe ratio among the Asian-Pacific countries.

Malaysia has the highest number of property business firms (49), followed by Hong Kong (22), Japan (20) and Singapore (12) as reported in Liow et al (2006). It was the first Asian country to develop listed property trusts as an effective indirect real estate investment vehicle in 1989 (Newell et al, 2002). Property companies and property trusts are co-listed under the property and trust sections of the Bursa Malaysia (Sing et al, 2002). Malaysia is an emerging property market in the region. The properties are sold before they are completed in the primary market which means that the cash flows (and profits) of the developers are tied to the sale performance of the projects under construction. For developers, pre-selling uncompleted properties can, on one hand, help secure the upfront capital for the construction; on the other hand, they can transfer the market risk of the project during the construction period through passing the equitable ownership of the presale properties to the buyers (Chau et al., 2003). In addition, by regulation, these firms are required to obtain a Developer license, Advertising and Sales permit and need to open a special project account, commonly known as the Housing Development Account (HAD). Under the Housing Development Regulations 1989, property developers are required to use the prescribed standard sales and purchase agreement and charge only 10% of the sales and purchase price. The dividend payout of the developer[3] should be less than 50% to ensure that sufficient cash is retained in the company (MARCB, 2006).

Table 1 shows the dividend payout (otherwise cash retention) of the property and non-property sectors in Malaysia. The variation in payout practices across sectors, *a priori*,

[2] Unlike other investments, real estate investment has low inflation risk. The nominal returns of a real estate investment, such as rents or selling prices, can be negotiated anew. Hence, the investor has the possibility of adjusting the returns of the investment (Rasheed and Tajudeen, 2006).

[3] Malaysian property trusts (or REITs) are not tax neutral, and are not required to distribute 90% of their income back to investors.

would either suggest that managers in such sectors try to signal or convey information about future cash flows of the firms. Debt levels of the firms might be another factor that has constrained the payout in some sectors relative to others. Firms which have borrowed large amounts of debt usually have several constraints on their dividend policy and therefore follow more conservative dividend policy.

Table 1: Dividend payout pattern in property and non-property sectors in Malaysia

Industry Sectors	Dividend pay out	Debt ratio
Property	0.3457	0.2278
Non-property sectors:		
Construction	0.1102	0.5283
Consumer goods	0.2149	0.4802
Financial	0.1987	1.0399
Industrial products	0.2832	0.4667
Hotels	0.0945	0.5530
Infrastructure projects	0.4771	0.4278
Plantation	0.3624	0.4432
Trading	0.2759	0.1075
Technology	0.0543	0.0069

Property business ownership

Another interesting facet of property firms in Malaysia is that there is also substantial family ownership. Table 2 shows the ownership of property firms – family, institution, government and foreign-owned using the criterion that the substantial shareholding of more than 25%.

Table 2: Ownership of listed property firms

	Family-owned	Institution-owned	Govt-owned	Foreign-owned
Mean	67.20	14.50	12.98	0.20
Median	70.80	13.54	13.67	0.09

Previous studies have shown that firm ownership (such as concentrated vs. widely held ownership) has important influence on the dividend payouts. For instance, Chen et. al. (2005) find a significant positive relationship between family ownership and dividend yield for small market capitalization firms. The owners of the large firms expropriate not only useful resources but also enjoy large dividend payments due to significantly large shareholdings, which might lead to conflict between majority shareholders and small shareholders. Gugler (2003) further adds to this argument that if owner-managers are themselves the residual claimants, dividends and or dividend stability are less valuable , and owner-managers are more likely to cut dividends when necessary. Mancinelli and Ozkan (2006) show that firms pay lower dividends as the voting rights of the largest

shareholders increases in Italy, and Harada and Nguyen (2006) find that dividend payout is negatively related to ownership concentration in Japan. However, Elston (2004) find that neither institutional ownership nor bank control is statistically significant in determining dividend payouts in Germany. We examine the influence of ownership for the first time for Malaysian firms in this paper .Thus, in the light of above arguments, we should expect that more closely owned firms in Malaysia to have higher payout, to reduce agency costs. On the contrary, if such firms make information and agency concerns largely irrelevant, then we should expect dividend policy to be irrelevant for such firms. And those firms which have wider ownership and may have effective governance mechanisms to distribute a relatively large fraction of earnings as dividends.

Most of the studies on the dividend policies of the property firms have focused on the developed countries (Ooi, 2001; Mooradian and Yang, 2001; Bradley et al, 1998; Wang et al., 1993). There are a few studies on the Malaysian property firms. For instance, using the sample of 25 property developers and 20 construction firms for a period of eight years, Mahommod and Rozimah (2007) suggests that Malaysian property developers are more profitable than contractors due to the fact that their capital gearing and debt equity ratio are less than those of contractors. Hwa and Rahman (2007) examined the dividend stability of four Malaysian listed property trusts over the period of 1989-2005. Aziz and Yi (2005) reported that besides location, cash flows, relationship with local authorities, project innovation and management expertise are considered to be the most important factors underlying competitiveness of Malaysian property developers.

We argue that the dividend policy of property firms hold importance for the shareholders for two reasons: first, property firms invest huge sums of money into construction, development, and management of property portfolios within and across regions. The cash flow of the property developers depends on the take-up rates of the properties and the construction schedules. Therefore, the cash flows of the developer firms are uniquely related to the property market risks of not only the domestic market, but also to the other market risks of the foreign markets. Thus, the justification of this paper is to continue the dividend relevance debate into the realm of emerging markets and explore the payout in Malaysia.

Our findings can be summarized as follows: first, the dividend payments of the Malaysian property firms showed an upward trend until the property market burst in 1997. The highest payers tend to be those firms which have diversified into businesses such as trading and hotel operations. The lowest payer or dividend cutter firms tend to be those firms which have diversified into plantation and manufacturing businesses. Second, although firms chose a policy to smooth out payments, there is a significant variation in the optimal payout and speed of adjustment, which seems to suggest that dividends are not sticky. Third, we found that firm size and leverage play important roles in payout.
The paper is organized as follows. Section 2 provides a review of dividend policy literature and formulates hypotheses. Section 3 sets up an estimation model and briefly

discusses the dataset used for empirical analysis. Section 4 reports the main results and the paper concludes in Section 5.

DIVIDEND POLICY LITERATURE AND HYPOTHESES

Agency theory

Despite dividend irrelevance to a firm's value suggested by Miller and Modigliani, the finance literature offers theoretical insights into how the managers are likely to approach the dividend policy (see Baker et al, 2002 for managerial perspective on dividend policy). One of the central assumptions in the Miller and Modigliani (1961) seminal work is that, the managers are assumed to work in the best interests of the shareholders, and therefore, managers maximise shareholders' wealth. This implies that firms with diffuse ownership, other things being equal, will have the same stock market value as firms which are owned and run largely by 'insiders'. Agency theory suggests that managers, who act as 'agents' for shareholders, are not necessarily motivated to act in the shareholders' best interests (Jensen and Meckling, 1976). The potential for opportunistic behaviour by managers' results in lower firm valuations with managers acting as agents compared to the values of firms which are both owned and run by managers. Agency theory suggests that given the potential of managerial hazard, dividend payments send signals to shareholders about the future of a firm, or as a mean to constrain managers' over-investment behaviour (Jensen, 1986). Theoretically, when a firm's cash flows are volatile, it is difficult for the investors to accurately attribute the volatility in the cash flows to the actions of corporate managers or to factors beyond the manager's control. Thus, the higher the expected variance in cash flows, the greater the potential agency costs, and the greater the reliance on dividend distributions (Bradley et al., 1998). In the light of this argument, we should expect that the dividend payout of the property developers should be less sticky. The value of dividend payout as a guarantee against non-value-maximizing investments should be greatest for those firms with the greatest cash-flow uncertainty. Therefore, the agency-cost theory predicts that firms with greater volatile cash flows will, on average, pay out a greater proportion of their cash flows in the form of a dividend.

Signalling theory

Miller and Modigliani (1961) suggested that dividends might convey information about firms' future earnings if management pursued a policy of dividend stabilisation, and used a change in the dividend payout ratio to signal a change in their views about the firms' future profitability. According to signalling theory, managers have significant inside information about the firm that they cannot, or do not wish to pass on to outside shareholders; for example, better estimates of the future earnings. Corporate dividends are considered to be management's most cost-effective way of reducing the investor uncertainty about the company's value. Bhattacharya (1979) and Miller and Rock (1985) suggest that outside investors have imperfect information about firms' profitability, and therefore, dividends function as a signal of expected cash flows.

Clientele effect theory

The demand for the dividend paying companies arises from different clienteles. Black and Scholes (1974) and Allen et al. (2000) propose clientele theories underlying firms' dividend policies. Baker and Wurgler (2004) argued that there are several reasons for the existence of several clientele effects. First, market imperfections, such as transaction costs, taxes, and institutional investment constraints cause traditional dividend "clienteles". Second, there is a widespread popular belief that dividend payers are less risky. Third, some investors may use dividends to infer managers' investment plans. They may interpret dividend omissions and controlling for profitability as evidence that the firm has strong growth opportunities, and take dividends as evidence that growth opportunities are weaker.

Corporate governance and investor protection

The main argument underlying the effect of corporate governance practices on the dividend policies is that corporate governance can vary widely even among firms in the same country operating under the same legal regime, and therefore, produce divergent dividend patterns across firms within a country. Indeed Mitton (2004) found the positive relationship between corporate governance and dividend payouts is limited primarily to countries with strong investor protection, suggesting that firm-level corporate governance and country-level investor protection are complements rather than substitutes.

ESTIMATION MODEL AND DATA

We used the Lintner (1956) model to investigate dividend policies of property firms in Malaysia over the period of 1995-2005. According to this model, the target payout level is assumed to be a fixed portion of earnings (see Eq. 1.1); thus, our model take the following form:

$$D^{*}_{i,t} = \tau \Pi_{i,t} \tag{1.1}$$

$$D_{i,t} - D_{i,t-1} = \gamma + \alpha(\tau \Pi_{i,t} -)D_{i,t} + \varepsilon_{i,t} \tag{1.2}$$

$$D_{i,t} = \gamma + \alpha \tau \Pi_{i,t} + (1-\alpha)D_{i,t} + \varepsilon_{i,t} \tag{1.3}$$

where $D^{*}_{i,t}$ is the target payout of a firm *i* in period *t*, τ is the target payout ratio, $\Pi_{i,t}$ are current earnings, $\Delta D_{i,t}$ changes in dividend payments from period *t* to *t-1*, α is a speed of adjustment coefficient, $D_{i,t-1}$ lagged dividends and ε is the normal error term. The parameters most important are α and τ, as these indicate the size of dividend payout

and smoothing. A higher value of α indicates a speedier adjustment to target payouts and vice versa[4].

Data

We downloaded the financial accounting data of all property firms listed on the Bursa Malaysia over the period of 1995-2005 from *Thomson Worldscope;* in particular, *Revenues, Earnings, Dividends, Assets, Cash Flows* and *Debt*. Our sample is highly representative of the population of listed firms, as it represents more than 53% of the market capitalisation of property firms.

We excluded firms from the analysis using the following criteria: (i) the firms do not have continuous data for at least three years (ii) the firms do not have data on the variables used in the subsequent analysis. Table 2 shows the yearly distribution of dividend payments by the sample firms (see Panel A). The aggregate dividend payments showed an upward trend until the property boom period before the Asian financial crisis in 1997. The aggregate dividend payments by the property firms increased from RM 565.48 Million to RM 775.12 Million. In the aftermath of the Asian financial crises, the dividend payments dropped to the lowest level of RM 291.194 Million in 1999 because a large number of the firms did not pay dividends over the period of 1999-2000. The dividend policy of firms has changed in 2003-2005 by observing an increase in the dividend payments due to increase in number of firms increasing the amount of dividends (see Column 2, Panel A).

Panel B of the Table 3 shows the size of the dividend changes. Almost 24% of the dividend increases are greater than 100 %, whereas 45% of the dividend cuts are between 25% and 50% over the entire sample period[5], which seems to suggest that firms have higher payout ratios. The summary descriptive statistics on the payout ratio (see Panel C) shows that mean (median) *Dividend-earnings ratio* is 34.57% (26.25%) confirming that a substantial share of earnings is paid out as dividends in Malaysia in comparison to other countries such as Japan (18%). It appears that firms follow different payout policies across countries. Indeed, recent studies such as Aivazian et al. (2003) and La Porta et al. (2000) have pointed out that firms follow different payout policies due to the organization of the capital markets and dividend tax treatments. On the other hand, cash flow volatility calculated as in Nguyen (2007):

[4] If dividends in year *t* are unchanged from that in year *t-1* and net income fall in year *t,* it will make payout higher in year *t* even though dividends are unchanged/smoothed. Consequently Lintner's model will not be able to systematically pick out any smoothing effect.

[5] Chua (2001) report that in early 1997, the property sector began to decline mainly due to oversupply, rising interest rates, restrictions on financing and policy changes which were instituted to control supply and over exposure of financing to the property sector. The conditions began to stabilize in the last quarter of 1998 after further government intervention by way of new policy adjustments, directly affecting housing development in particular.

$$CVOL_{i,t} = \frac{\text{Weighted average cash flows}}{\text{Standard deviation of cash flows}}$$

where the numerator is the firm's average cash flows (weighted by firm size as in Nguyen, 2007) to their standard deviation. This measure shows greater variation, which might have implications for the dividend payout. Likewise, there is a large variation in the growth captured by market-to-book ratios which is not surprising given the volatility in the profit margins.

Further interesting results emerge when we take into account related and unrelated diversification of the property developers into manufacturing, hotel, plantation, construction and trading sectors. Panel D shows that the mean revenue contribution of the plantation business segment of the sample property firms is higher compared to manufacturing and 'other' segments. Panel E shows the number of property firms with diversification in the manufacturing, plantation, construction, trading and other segments. We can observe that a large number of firms have diversified into related business segments such as construction and plantation, and a smaller number of firms (4) which have diversified into unrelated segments such as education, leasing, stock brokering etc. Thus, we could expect that such related diversification to provide firms with more internal sources of funds to increase dividend payments.

For instance, 5% of all the dividend increases, i.e. more than 50% and less than 100%, were made by those property developer firms diversified into construction besides their core operation of the property development. Likewise, 8% of all the dividend increases by more than 100% were made by those property developers who have diversified into trading and hotel operations. This preliminary finding seems to suggest that diversification into related (unrelated) business segments might have allowed managers to increase the payout for the other firms in the business.

We also observed that there are some property firms who maintained the highest dividends of more than 100%. One such example is Talam Corporation Bhd., which increased its dividends by more than 100% two times, 205% in 2001 and 262% in 2005. Talam Corp. issued U.S. $ 34 million Islamic debt securities in 2005 and the company might have used funds to increase dividend payments in that year to reduce agency costs. Indeed, Booth et al. (2006) have shown that firms with public debt tend to increase their dividend payments. On the other hand, Osk Bhd. and Oriental Interest Bhd. reduced their dividends by more than 50% twice over the sample period. Intriguly, most of the dividend cuts were made by those property firms who have a higher share of revenues from their plantation and manufacturing business segments.

Table 3: Distribution of dividends and descriptive statistics

Panel A: Distribution of firms with yearly changes (increase, decrease, non-payment over the period of 1995-2005

Year	Number of firms	Dividends RM. Mill	Changes in Dividend payments		
			Increase	Decrease	Non-payment
1995	30	565.48	-	-	-
1996	38	775.12	21	5	12
1997	40	673.97	15	13	12
1998	41	360.05	5	29	7
1999	42	291.19	7	19	16
2000	44	270.03	17	6	21
2001	40	266.99	15	5	20
2002	39	371.91	8	7	24
2003	42	466.49	18	8	16
2004	42	734.24	31	4	7
2005	49	822.70	24	9	16

Panel B: Distribution of changes in the dividends

Range of changes in Dividends	Increases	% of total increases	Decreases (cuts)	% of total decreases (cuts)
0 <10%	31	19.25	17	16.19
10-<20%	24	14.91	11	10.48
20 <50%	32	19.88	47	44.76
50-100%	35	21.74	30	28.57
>100%	39	24.22	-	-
Total	161		105	

Panel C: Sample descriptive statistics

Variables	Mean	Median	Std Deviation	Minimum	Maximum
Dividend-earnings ratio	0.3457	0.2625	0.3796	0.0000	3.4020
Dividend-revenue ratio	0.0792	0.0454	0.2248	0.0002	4.1250
Market-to-book ratio	1.2150	0.7200	8.0654	1.9300	33.5556
GR	0.1871	0.0329	2.1655	-0.9367	45.0182
Profit Margin	0.0737	0.1248	0.4126	-1.9515	1.584
Cash flow Volatility	0.5085	0.6283	0.4703	-0.1576	1.1785
Leverage	0.2397	0.2147	0.1961	1.0352	0.0012

Panel D: Descriptive statistics for revenue contribution (in %) by business segments of property firms

Business segments	Mean	Median	Std Deviation	Minimum	Maximum
Property development	*69.1724*	75.0001	23.7863	16.0000	98.0000
Others Segments:					
Manufacturing	26.6000	26.5000	16.2904	1.0000	60.0000
Hotels	14.7272	13.0000	9.3818	3.0000	32.0000
Plantation	32.0000	19.0000	36.2904	4.0000	73.0000
Construction	16.5000	18.5000	8.1240	3.0000	28.0000
Trading	9.0000	7.0000	7.8485	2.0000	24.0000
Other §	27.2500	16.000	32.6758	2.0000	75.0000

§ Other business segments include hospitals, educational institute, management services, leasing, and investment and brokerage services etc.

Panel E: Diversification segments

Business segments	Manufacturing	Hotels	Plantation	Construction	Trading	Others
Manufacturing	1	-	-	-	-	-
Hotels	2	1	-	-	-	-
Plantation	1	2	5	-	-	-
Construction	0	1	1	12	-	-
Trading	1	2	-	-	6	-
Other		1		1	1	4

EMPIRICAL RESULTS

Optimal dividend payout and adjustment speed

Table 3 reports the estimation results of the model Eq. (1.3) for all the listed property firms from 1995 to 2005. Before we discuss the results in detail, it is important to highlight that the model has reasonable explanatory power in explaining dividend policies. Unlike previous studies (e.g. Aivazian et al, 2003) which found that models performed poorly for the Malaysian firms. The adjusted Adj. R^2 is higher compared to the previous studies. Notably our estimation do not have problems of auto-correlation indicated by *DW* test values respectively, and therefore, the estimates of speed of adjustment and optimal payout are significant.

The firms seem to have chosen a dividend policy that can be described as significant smoothing i.e., $(1- \alpha) = 0.5947$, which seems to suggest that an economically and

statistically significant weight is put on lagged dividends as a determinant of current dividends. When we divided our sample into firms having construction, trading and hotel segments, further interesting results appear. The firms with construction segments have a lower payout ratio of 24% and speed of adjustment of 0.27 compared to a higher payout of 42% and speed of adjustment of 0.33 for firms with trading and hotel firms. Thus, construction firms seem to complete less one third of the gap between target dividend and current dividend in a year. These results seem to suggest that once the diversification variable is taken into account, dividends are less sticky; i.e. firms with construction businesses are relatively less generous in increasing dividends compared to the firms with hotel and trading business segments. This finding might seem to suggest that diversification plays an important role in the payout policy. According to agency costs theory, firms with low growth opportunities should pay substantial amounts of cash as dividends. To test this hypothesis on our sample, we used the median of the market-to-book value of firms and divided sample into high and low growth firms. Our results do not find support for the agency cost hypothesis, in that firms with low growth have low payout ratios compared to the high payout ratio of high growth firms. This finding can be interpreted either as an evidence of greater effectiveness of monitoring by outsiders or managers of the growth-oriented firms enjoying incumbency rents (Fudenberg and Tirole, 1995). If managers enjoy private benefit from being in control, they individually and rationally smooth dividends.

Table 4: Optimal dividend payout and speed of adjustment

	α	τ	*Adj. R^2*	*DW*
All Firms	0.4053 [a]	0.3289 [a]	0.6470	2.0144
	(0.1300)	(0.0377)		
Construction segment	0.2727 [b]	0.2400 [a]	0.6686	2.0699
	(0.1468)	(0.0946)		
Trading & Hotel segment	0.4242 [a]	0.3317 [a]	0.6357	1.9880
	(0.1349)	(0.0373)		
LOW Growth firms	0.4703 [a]	0.1746 [a]	0.4904	1.9719
	(0.0606)	(0.0428)		
High Growth firms	0.4757 [a]	0.3518 [a]	0.6129	2.1507
	(0.1534)	(0.0470)		

[a] [b] [c] shows statistical significance at 1, 5, and 10 percent level respectively.

Determinants of property firms payouts

We used a regression model defined in Eq. (1.4) following Ooi (2001) to examine in detail which firm-specific factors determine the payout of property firms in Malaysia:

$$PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} + \varepsilon_{i,t} \quad (1.4)$$

where the dependent variable *PO* is defined as the ratio of cash dividend payments to the preferred and common shareholders to net income for a firm *i* in year *t*; *DIV* are the dividend payments in year *t-1*, *NI* is defined as earnings after tax available to shareholders; *MTB* is market-to-book value of equity calculated as market value of firm dividend by its book value; *GR* the growth in property assets of the firms from year *t-1* to *t*; *DEBT* is the total debt divided by total assets; and *SIZE* is the natural log of the market capitalization of the firm. The hypothesized relationship between the dependent variable and explanatory variables are as follow: first, we would expect that dividend payment in the year *t-1* to have a stronger positive effect on the payout in the current year; second, a firm with high growth opportunities needs more internal finance to undertake investment projects; therefore, we should expect a negative relationship between *PO* and *MTB,* and *PO* and *GR* respectively. According to the agency cost literature, increase in debt ratio can be used to restrain managerial opportunism; therefore, we should expect a negative relationship between *DEBT* and *PO*. The large firms are able to payout dividends, because these firms have the ability to raise funds in the capital markets, and therefore are less dependent on the internal funds (Ooi, 2001). Therefore, we should expect a positive relationship between *SIZE* and *PO*. The error term has the usual properties of zero mean and constant variance.

We used an unbalanced panel data of the firms for which we have at least three years of continuous information on the dividend and explanatory variable. We used a fixed and random effect specification used in Ooi (2001); however the Huasmann test rejects the random effect specification in favour of fixed effect specification. We estimated Eq. (1.4) using the panel least square estimation method.

The estimation results show a significant positive coefficient for the variables of lagged dividends and size. The absence of any effect of the *MB* on the payout ratio seems to suggest that higher growth does not necessarily decrease payout as we found earlier. The model has a reasonable degree of explanatory power indicated by the adjusted R-squared term.

Ownership and dividend policy

In this section, we examine the influence of ownership on the dividend policy of the property firms. We use percentage of share owned by each class of investors defined in section 1.2. These ownership variables *FMLY, GOVT,* and *INST* denoting family, government and institutional ownership are used respectively in the following model:

$$\begin{aligned} PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} \\ + \beta_7 FMLY_{i,t} + \beta_8 GOVT_{i,t} + \beta_9 INST_{i,t} + \iota_{i,t} \end{aligned} \quad (1.5)$$

It is worthwhile to point out that most data on the ownership was not available for the early years of 1995, and there were missing values for some years for some firms; therefore, the estimation results are shown with this obvious limitation in Column 2, Table 5. There is a significant positive relationship between *FLMY* and *PO* which seems to support the earlier conjecture that tightly controlled family-owned firms reduce agency costs in Malaysia by paying out dividends. We do not find any significant effect of *GOVT* and *INST* variables on the payout; similar to the findings of Elston (2004).

Table 5: Determinants of dividend payout

$$PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} + \varepsilon_{i,t} \quad (1.4)$$

$$PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} + FMLY_{i,t} + GOVT_{i,t} + INST_{i,t} + \iota_{i,t} \quad (1.5)$$

$$PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 MANF_{i,t} + \beta_8 PLT_{i,t} + \beta_9 TRD_{i,t} + \beta_{10} HTL_{i,t} + \beta_{11} CST_{i,t} + \eta_{i,t} \quad (1.6)$$

$$PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 MANF_{i,t} + \beta_8 PLT_{i,t} + \beta_9 TRD_{i,t} + \beta_{10} HTL_{i,t} + \beta_{11} CST_{i,t} + \beta_{12} CVOL_{i,t} + \varsigma_{i,t} \quad (1.7)$$

Variables	**(1)**	**(2)**	**(3)**	**(4)**
	Eq.(1.4)	Eq. (1.5)	Eq. (1.6)	Eq.(1.7)
Const.	0.0425 [a]	0.0133 [a]	0.0150 [a]	0.0135 [a]
	(0.0158)	(0.0015)	(0.0022)	(0.0013)
DIV_{t-1}	2.1649 [a]	2.1771 [a]	0.6533 [a]	2.4862 [a]
	(0.2722)	(0.2802)	(0.1256)	(0.2908)
$NI_{i,t}$	-0.8393 [a]	-0.7393 [a]	-0.4315 [a]	-0.7462 [a]
	(0.0887)	(0.0983)	(0.1325)	(0.0901)
$MTB_{i,t}$	-0.4065	-0.4037	-0.3565	-0.4033 [a]
	(1.1076)	(1.1607)	(0.0233)	(0.2032)
$GR_{i,t}$	1.9736	2.2043	0.4254	1.2354 [a]
	(0.2036)	(3.3089)	(0.2248)	(0.4765)
$DEBT_{i,t}$	-0.3986 [a]	-0.0380 [a]	-0.0123 [a]	-0.0046
	(0.0645)	(0.0121)	(0.0032)	(0.0181)
$SIZE_{i,t}$	3.3676 [a]	8.6149 [a]	0.4392 [a]	0.5859 [a]
	(1.5712)	(3.5433)	(0.0117)	(0.0778)
$MANF_{i,t}$	-	-	0.0061 [a]	0.0302
			(0.0006)	(0.3209)
$PLT_{i,t}$	-	-	-0.0200 [a]	0.1913
			(0.0123)	(0.5859)
$TRD_{i,t}$	-	-	0.0502 [a]	0.1307
			(0.0012)	(0.5187)
$HTL_{i,t}$	-	-	-0.1253	0.0324
			(0.1113)	(0.1441)
$CST_{i,t}$	-	-	0.0213 [a]	0.0011
			(0.0021)	(0.0001)
$CVOL_{i,t}$	-	-	-	-0.0023 [a]
				(0.0001)
$FMLY_{i,t}$	-	0.0234 [c]	-	-
		(0.0122)		
$GOV_{i,t}$	-	0.0023	-	-
		(0.0020)		
$INST_{i,t}$	-	0.0085	-	-
		(0.0045)		
Adj. R2	11.11%	15.09%	26.10%	29.86%
DW	1.8714	1.9294	2.3865	1.5678
F-TEST	11.0413 [a]	11.6614 [a]	22.4632 [a]	19.7097 [a]

[a, b, c] shows statistical significance at 1, 5, and 10 percent level respectively.

Business diversification and dividend payout

In this section, we examine the impact of business diversification on the payout of the firms. For estimation purposes, we denote the percentage of revenue derived from the business segments such as manufacturing, plantation, trading, hotels and construction by *MANF, PLT, TRD, HTL,* and *CST* respectively and estimate Eq. (1.6):

$$PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 MANF_{i,t} + \beta_8 PLT_{i,t} + \beta_9 TRD_{i,t} + \beta_{10} HTL_{i,t} + \beta_{11} CST_{i,t} + \eta_{i,t} \quad (1.6)$$

The estimation results (see column 3, Table 5) show a significant positive coefficient only for the *TRD* and *CST* variables, suggesting that diversification into related business segments such as trading and construction provide additional internal funds to the property development arm of the business and lead to an increase in the dividend payment of the firms. This result also seems to support Aziz and Yi (2002), that there are many housing developers in Malaysia that have construction arms that provide these developers synergistic benefits over their competitors. The strategy and management literature (e.g. Bettis et al., 1985) also indicate that, on average, related diversification firms outperform unrelated diversified firms.

Cash flow volatility and dividend payout

In this section, we investigate the impact of the cash flow volatility *CVOL* on the payout.

$$PO_{i,t} = \alpha + \beta_1 DIV_{i,t-1} + \beta_2 NI_{i,t} + \beta_3 MTB_{i,t} + \beta_4 GR_{i,t} + \beta_5 DEBT_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 MANF_{i,t} + \beta_8 PLT_{i,t} + \beta_9 TRD_{i,t} + \beta_{10} HTL_{i,t} + \beta_{11} CST_{i,t} + \beta_{12} CVOL_{i,t} + \varsigma_{i,t} \quad (1.7)$$

By including all the variables in the model, we are mindful of the potential problem of the multi-collinearity among the variables; however, using the VIF test, we do not detect any significant level of multi-collinearity among the variables. The estimation results (see column 4, Table 5) show a significant negative coefficient for *CVOL*, indicating that when firms' cash volatility increase, firms reduce their dividend payout. This is due to the fact that once a company begins paying a regular dividend, it will generally do everything it reasonably can to continue paying that dividend, because it would give investors high confidence that the dividend payments will continue indefinitely at the same amount or greater in the future. Thus, low (high) cash flow volatility will increase (decrease) investors' confidence in the future dividend payments, which in turn would have implications for the share price volatility. For instance, if a company continues paying a specified amount of money to shareholders in the form of regular cash dividends, its stock usually trades with a little less price volatility in the market (Asquith and Mullins, 1983). Thus, our results provide evidence supporting the arbitrage realization effect, duration effect and information effect of the dividend policy on realized returns and price volatility.

We also used an alternative measure of cash flow volatility used in Bradley et al. (1998) in the following reduced form model:

$$D_{i,t} = \alpha + gE_tY_{t+1} + hE_t\sigma_y \qquad (1.8)$$

where the dependant variable $D_{i,t}$ is the natural logarithm of the dividend per share, E_tY_{t+1} is expected cash flow and $E_t\sigma_y$ is the anticipated volatility of cash flows. According to Bradley et al. (1998, p. 561), the sign of *h* will allow us to distinguish between the agency cost and the signalling theories of dividend. Under the agency cost theory, *h* will be positive because firms with higher cash flow volatility indicating higher agency costs, and under the signalling theory, *h* will be negative, because managers would try to avoid the penalty imposed when dividends are cut; managers will actually pay out smaller dividends when cash flows are more risky.

Eq. (1.8) contains unobservable quantities E_tY_{t+1} and $E_t\sigma_y$. Bradley et al. (1998) proposed that by appealing to the rational expectation[6], we can use the actual change $(Y_{t+1} - Y_t)$ in the cash flows as a proxy for the expected change $[(Y_{t+1} - Y_t) - u_{t+1}]$ in cash flow. Since the expected change in cash flow is measured with error, the coefficient on this term might be biased towards zero. For $E_t\sigma_y$, we choose a set of economic and financial variables as in Bradley et al. (1998) that are *a priori* known to influence the cash flow volatility, such as financial leverage defined as the total debt to total assets ratio, and two economic variables obtained by using the Herfindhal index, such as property market and product market shares denoted by *PrHerf* [7], which is computed as $\sum_{k=1}^{4} S_k^2$ where S_k is the proportion of the firms' assets invested in each of the four property types: office, factory/wharehouse, shopping mall, and residential, and *RgHerf* which is computed as $\sum_{r=1}^{5} S_r^2$ where S_r is the proportion of the firms' assets

[6] *Using rational expectation paradigm,*
$E_tY_{t+1} = Y_t + E_t(Y_{t+1} - Y_t)$ and
$Y_{t+1} = E_tY_{t+1} + u_{t+1}$, then $EY_{t+1} = Y_t + (Y_{t+1} - Y_t) - u_{t+1}$

[7] Higher level of property concentration by property type lead to higher levels of the values of *PrHerf* i.e., if a firm is highly focused on one dimension, then, *PrHerf* is closer to 1, while if it reaches 0.25 it means the firm's portfolio of properties is equally diversified across four property types. On the other hand, *RgHerf* can vary from 1 for a geographically concentrated firm to for a firm with holding diversified across the states.

invested in 5 regions[8] or states in West Malaysia. By substituting these proxies in Eq. (1.8), we have:

$$D_{i,t} = \alpha + g_1 Y_{i,t} + g_2 (Y_{t+1} - Y_t) + g_3 Lev_{i,t} + g_4 \Pr herf_{i,t} + g_5 Rgherf_{i,t} \qquad (1.9)$$

where the dependent variable $D_{i,t}$ is the natural logarithm of the dividend per share, $Y_{i,t}$ is the natural log of cash flow per share, and $(Y_{t+1} - Y_t)$ is the natural log of cash flow per share in the year *t+1* minus the same observation in prior year to account for projected cash flows. $Lev_{i,t}$ is the total debt to total assets ratio. Our main hypothesis is that dividends are lower when the volatility of net cash flow increases; captured by three proxy variables $Lev_{i,t}$, *RgHerf* and *PrHerf.* Consequently, we should expect that dividends will be lower when the firm property portfolio is more focused along either geographic or product-type dimensions, and when the firm is highly leveraged.

Table 6 presents the estimation results of Eq. (1.9). Overall, the model does not capture cross-sectional variation in the dividend payouts very well compared to Eq. (1.7). In the first column of Table 6, the coefficients associated with $Y_{i,t}$ and anticipated change $(Y_{t+1} - Y_t)$, are negative and positive respectively at the conventional level of significance. When we introduce the cash flow volatility variables in the second specification, the coefficient associated with $Lev_{i,t}$ is significantly negative as expected, which seems to suggest that any increase in the leverage of the firm affects cash volatility and dividend pay out pattern seem to mirror these changes in the leverage. Regarding the two measures of product and geographic diversification, *RgHerf* and *PrHerf,* the coefficients seem to suggest no significant impact on the dividend pay out. It might suggest that diversification across property types within a geographic region has little or no impact on cash flows volatility, and also in our sample, most of the firms have focused along the dimension of the residential property development. Similarly, most of the property developers are concentrated in the two particular states of Johor and Penang[9].

[8] There are 13 states in Malaysia. We pick only 5 states due to following reasons, first: majority of the sample firms have property or land developments in (i) Johor Darul Takzim (ii) Selangor Darul Ehsan (Federal Territory of Kuala Lumpur and Putrajaya) (ii) Pahang Darul Makmur (iv) Negeri Sembilan Darul Khusus (v) Penang. Other states in West Malaysia: Kedah, Kuala Terengganu, Kelantan, Pahang, Perak, Perlis, and in East Malaysia such as Sabah, Sarawak, have either one or two property developers, therefore, we excluded these two states of East Malaysia from analysis.

[9] Geh (2000) reports that during the period 1995-1996, there was massive increase of over 600% in the number of condominiums built in Penang. The High-Rise Unit Price Index for Penang compiled by the Valuation and Property Services Department increased from 77.9 in 1988 to record high level of 170.8 in 1997 (Chin et al, 2004).

Due to these reasons, we do not find cross-sectional variation in our sample and coefficients are not significant.

Table 6: Dividends and cash-flow volatility alternative estimations model

$$D_{i,t} = \alpha + g_1 Y_{i,t} + g_2 (Y_{t+1} - Y_t) + g_3 Lev_{i,t} + g_4 Prherf_{i,t} + g_5 Rgher_{i,t} \quad (1.9)$$

	1	2
g_1	-0.8186[a]	-0.5324 [a]
	(0.2015)	(0.1342)
g_2	0.0216	-0.0044
	(0.1726)	(0.1602)
g_3	-	-0.0046 [a]
		(0.0018)
g_4	-	0.0614
		(0.1798)
g_5	-	0.0212
		(0.1345)
Adj. R2	0.0220	0.1188
F-test	2.2699 [c]	2.2612 [c]

[a, b, c] shows statistical significance at 1, 5, and 10 percent level respectively.

CONCLUSIONS

This paper shows that the dividend payout of property firms in Malaysia is to a large extent determined by stylized factors mentioned in the dividend policy literature. The firms which are engaged in more trading and hotel operations tend to pay out higher dividends as compared to other firms that focus on property development. Our findings provide a new contribution to the emerging markets real estate property finance and dividend policy literature. Our results seem to suggest that managers are concerned about dividend relevance for the firms' value.

The paper has implications for the compensation and performance measurement of the managers. The performance based compensation of the managers should be determined by the manager's efficiency in the allocation of resources to different business performance, and contribution to overall firms' earnings. The remuneration committees of firms should take into total return i.e., dividend plus share price appreciation as one measure to establish whether managers are providing shareholders adequate return on their investment. The directors' compensation in Malaysia is tied to earnings before taxes, return on assets, and earnings per share (Rashidah, 2003) and past performance (Hassan et al., 2003). Furthermore, despite a lower profit margin, the average director's pay in the property and construction sectors are higher than non-property sectors such as industrial

products, infrastructure and technology (MSWG, 2005). The under-performing managers could be identified by their performance and replaced by new and more deserving managers. The active market of corporate control and disciplining of the board should also result in appropriate business strategic decisions to ensure higher firm value.

The findings from the paper can be extended into other research such as a comparison of long-term investment performance of high and low dividend paying firms, and also what are the factors that cause firms to increase, decrease or maintain dividends using stakeholders theory.

REFERENCES

Asquith, P. and Mullins. D. (1983) The impact of initiating dividends on shareholder wealth. Journal of Business 56, 77-96.

Aivazian, V., Booth, L. and Cleary, S., (2003) Dividend policy and the organization of capital markets. Journal of Multinational Financial Management, 13, 101-121.

Aivazian, V., Booth, L. and Cleary, S., (2003) Do emerging firms follow different dividend policies from US firms?. Journal of Financial Research, 26(3), 371-387.

Aivazian, V., Booth, L. and Cleary, S., (2006) Dividend smoothing and debt ratings. Journal of Financial and Quantitative Analysis, 41(2), 439-453.

Allen, F. Bernardo, A. and Welch, I., (2000) A theory of dividends based on tax clienteles. Journal of Finance, 56(6), 2449-2536.

Amihud, Y. and Murgia, M., (1997) Dividend, taxes, and signalling: evidence from Germany. Journal of Finance, 52, 397-408.

Aziz, A. R. and Yi, H.S., (2006) An analysis of competitiveness of housing developers in Malaysia, REHDA.

Baker, H.K. Powell, G.E. and Veit, T.T., (2002) Revisiting managerial perspectives on dividend policy. Journal of Economics and Finance, 26, 267–283.

Baker, M. and Wurgler, J., (2004) A catering theory of dividends. Journal of Finance, 59, 1125-1165.

Barclays, M.J. Smith, C.W. and Watts, R.L., (1995) The determinants of corporate leverage and dividend policies. Journal of Applied Corporate Finance, 7, 4-19.

Bhattacharya, N., (2007) Dividend policy: a review. Managerial Finance, 33(1), 4-13.

Bhattacharya, S., (1979) Imperfect information, dividend policy and the 'bird in the hand fallacy". Bell Journal of Economics, 10, 259-270.

Black, F. and Scholes, M., (1972) The effects of dividend yield and dividend policy on common stock prices and returns, Journal of Financial Economics, 1, 1-22.

Bradley, M,. Capozza, D.R. and Sequin, P.J., (1998) Dividend policy and cash-flow uncertainty. Journal of Real Estate Economics, 26 (4), 555-580.

Bettis, R., Mahajan, V and Cox, L. A. Jr. (1985) Risk/return performance of diversified firms: a new measure of attributable risk for public health application. Management Science 31(7), 785-813.

Chau, K. W., Wong, S. K. and Yiu, C. Y. (2003) Price discovery function of forward contracts in the real estate market: an empirical test. Journal of Financial Management of Property and Construction, 8(3), 129-137.

Chen, Z., Cheung, Y-L, Stouraistis, A. and Wong, W.S. (2005) Ownership concentration, firm performance and dividend policy in Hong Kong. Pacific Basin Finance Journal, 13, 431-449.

Chin, T.L., Chau, K.W. and Ng. F.F. (2004) The impact of the Asian financial crisis on the pricing of condominiums in Malaysia. Journal of Real Estate Literature, 12(2), 33-49.

Chua, (2001) The future of the property sector. Malaysian Journal of Economic Studies, 38 (1), Jun-Dec, 59-64.

Elston, J.A. (2004) Dividend policy and institutional ownership: empirical evidence using a propensity score matching estimator. Discussion Paper, Max Planck Institute of Economics, Group for Entrepreneurship, Growth and Public Policy.

Fudenberg, D. and Tirole, J. (1985) A theory of income smoothing based on incumbency rents. Journal of Political Economy, 103 (1), 75-93.

Geh, M. (2000) Penang Condominiums & Apartments Guidebook, Raine & Horne International Zaki and Partners Sdn Bhd. Penang.

Goergen, M. Reneeboog, L. and Silva, L.C., (2003). When do German firms change their dividends? Journal of Corporate Finance, 11(2,) 375-399.

Gugler, K., (2003) Corporate governance, dividend payout policy, and the interrelation between dividends, R&D, and the capital investment. Journal of Banking and Finance, 27, 1297-1321.

Harada, K., Nguyen, P. (2006) Ownership concentration, agency conflict, and dividend policy in Japan. Working Paper, Chuo University and University of New South Wales. Available from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=953433

Hassan, S. Christopher, T. and Evans, R. (2003) Directors' remuneration and firm performance: Malaysian evidence. Malaysian Accounting Review, 2(1). 57-67.

Holder, M.E., Langrehr, F.W. and Hexter, J.L. (1998) Dividend policy determinants: an investigation of the influences of stakeholder theory- Special issue: Dividends. Financial Management, Autumn,

Hwa, T.K. and Rahman, M.Y.A. (2007) Stability of dividends and FFOs: the case of REITs in Malaysia". 13th Pacific Rim Real Estate Society Annual Conference Fermantle, Perth, Australia

Jensen, M. and Meckling, W. (1976) Theory of the firm, managerial behaviour, agency costs, and ownership structure. Journal of Financial Economics 3, 305-360.

Jensen, M.J. (1986). Agency cost of free cash flow, corporate finance, and takeover. American Economic Review, 76, 323-329.

Jin, C., Grissom, T.V. and Ziobrowski, A.J. (2007) The mixed asset portfolio for Asia-Pacific markets. Journal of Real Estate Portfolio Management 13 (3), 249-257.

La Porta, R, L. Lopez, S. F., Shleifer and A. Vishny, R.W. (2000) Agency problems and dividend policies around the world. Journal of Finance, 55(1), 1-33.

Lintner, J. (1956) Distribution of incomes of corporations among dividends, retained earnings and taxes. American Economic Review, 46, 97–113.

Liow, K, H., Ibrahim, M.F. and Huang, Q. (2006) Macroeconomic risk influences on the property stock market. Journal of Property Investment and Finance, 24 (4), 295-323.

Litzenberger, R. and Ramaswamy, K. (1979) The effects of personal taxes and dividends on capital asset prices: theory and empirical evidence. Journal of Financial Economics, 7, 163-195.

Malaysian Credit Rating Corporation (2006) Rating Approach to Property Company, 1-11.

Mahmood, W.M. and Rozimah (2007) Profitability and capital structure of the property and construction sectors in Malaysia, Pacific Rim Property Research Journal, forthcoming.

Mancinelli, L. and Ozkan, A. (2006) Ownership structure and dividend policy: evidence from Italian firms. The European Journal of Finance 12(3), 265-282.

Miller, M. and Modigliani, F., (1961) Dividend policy, growth and the valuation of shares. Journal of Business, 34, 411–433.

Miller, M. and Rock, K., (1985) Dividend policy under asymmetric information. Journal of Finance, 40, 1031-1051.

Mitton, T. (2004) Corporate governance and dividend policy in emerging markets. Emerging Markets Review, 5(4), 409-426.

Minority Shareholders Watchdog Group (2005) Directors' Remuneration Survey. A Joint Survey of Minority Shareholders Watchdog Group and Universiti Teknologi Mara.

Mooradian, R.M. and Yang, S.X. (2001) Dividend policy and firm performance: hotel REIT vs. Non-REIT hotel companies is bigger better? a re-examination of the scale economies of REITs. Journal of Real Estate Portfolio Management, 7, 79-87.

Newell, G., Hwa, T.K. and Acheampong, P. (2002) Listed property trusts in Malaysia. Journal of Real Estate Literature, 10(1),

Nguyen, P. (2007) Macroeconomic factors and Japan's industry risk, Journal of Multinational Financial Management, 17(2), 173-185.

Ooi, J.T.L. (2001). Dividend payout characteristics of U.K. property companies. Journal of Real Estate Portfolio Management, 7(2), 133-142.

Rashidah, A. R. (2003). A survey on directors remuneration. Working Paper, Universiti Teknologi Mara. In Mahbob, S. Ali, M.M.N, Ishak, M.R.M and Yusof, N.Y.M. (eds.) Good Governance for Development. Private Sector Perspectives. Malaysian Institute of Integrity. Kuala Lumpur.

Rasheed, A.A. and Tajudeen, A.B., (2006) Performance analysis of listed construction and real estate companies in Nigeria. Journal of Real Estate Portfolio Management, 12(2), 177-185.

Sing, T.F., Ho, K.H. and Mak, M.F. (2002) Real estate market reaction to public listings and acquisition of news of Malaysian REITs, Journal of Real Estate Portfolio Management, 8(3), 209-227.

Wang, K, Erickson, J. and Gau, G.W. (1993) Dividend policies and dividend announcement effects for Real Estate Investment Trusts. Real Estate Economics, 21(2), 185-201.