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The Impact of Cash Flows and Earnings on Dividend: Evidence from Southeast Asia Countries

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ABSTRACT

The purpose of this research is to examine the impact of cash flows and earnings in setting the dividend policy in Malaysia, Singapore, Indonesia, Thailand and the Philippines. A total of 1131 companies from the years 2001-2003 were tested in this research. The research found that about 38 percent of the sample reported either losses reduced or omitted dividends. In contrast, only 35 percent of the 1066 companies did not report losses reduced or omitted dividends. The results found that changes of earnings is significantly associated with dividend changes for all sample companies. However, the research found that the level of cash flows is not significant in explaining the dividend changes in Malaysia, Singapore, Indonesia, Thailand and the Philippines. On the other hand, the cash flows are found to be significant in explaining the dividend change in all current operating earnings and cash flows are found to have information content in predicting future earnings for all the sample companies. However, this research can only give earnings in Thailand and not in other countries.

Keywords: *Dividend, Cash Flows, Earnings, Financial Reporting*

Introduction

Dividend payment is a crucial event in a firm's financial management. By paying dividends, a firm is rewarding investors for the risks they have taken. If other

factors are equal, then the higher the dividend, the higher will be the share prices. Dividend payment also affects a company's financing decision. The larger the dividend paid, the less funds are retained for reinvestment.

Since the work of Lintner (1956), numerous studies have examined the dividend policies of corporations. For example, in their famous 1961 paper, Modigliani and Miller (MM) argued that the dividend policy a company adopts has no impact on its investors' wealth. They stated that the equity value of the business depends on the present value of its after-tax earnings stream. The split of earnings between dividend and retention is purely cosmetic. They argued that, a company which pays low current dividends can finance new investments by retained earnings and therefore be able to pay high dividends at a later date. On the other hand, a company which pays a high current dividend will have to bring in new investors to fund projects and will be able to pay less to current investors in the future. In either case, the present value of dividends to current investors would be the same, and hence dividend policy has no impact on shareholders' wealth.

Therefore it is important to understand how decisions on dividends are made by organizations. There are numerous studies on dividend, for example Charitou and Vafeas (1998), DeAngelo and DeAngelo (1990) and Reddy (2004). Charitou and Vafeas (1998) found a positive relationship between dividend changes and cash flows. DeAngelo and DeAngelo (1990) found that high incidence of dividend cuts in NYSE firms that, (a) report multiple losses, (b) face binding debt covenants in the year they reduce dividends. For firms which do not have a binding debt covenant, dividends are cut more often than omitted. They also found that managers of firms with long dividend histories appear particularly reluctant to omit dividends. Reddy (2004) examined the dividend behavior of Indian corporate firms found that profit and firms' sizes are the major determinants of dividends. However, a firm's growth doesn't seem to deter Indian firms from paying higher dividends.

However, there is lack of research to address this issue in Southeast Asia countries. In order to fill the gap, this research tries to investigate (1) the effect of earnings and cash flows on dividend change (omission and cut) and (2) the information contents of dividend changes on the firm's future earnings in Southeast Asia countries.

Literature Review

Since 1956, dividend has always been an interesting topic to be explored and investigated. Lintner (1956) examined the distribution of income of corporations among dividends, retained earnings and taxes using data from the years 1918 to 1941 as a training period and data from the years 1942 to 1951 as the testing period. He found that the basic determinants of dividend changes are net income

and previous year dividends. Apart from that, firms attempt to maintain a steady stream of dividend and tend to make a periodic partial adjustment to a target payout ratio rather than dramatically changing their payout when a change in earnings occurs. In the short run, dividends are smoothed to avoid frequent changes.

In 1968, Fama dan Babiak investigated the influence of net income, cash flow and working capital on dividend policy. They found that net income and previous year dividends are the basic determinants of dividend changes. March and Merton (1987) studied dividend behavior for aggregate stock market in order to determine the relationship between dividend and earnings (losses) by using the data from the years 1926 to 1981. The results show that permanent earnings is the basic component of dividend changes.

Healy and Palepu (1988) investigated earnings information conveyed by dividend initiations and omissions by using a sample of 131 dividend initiation firms and 172 dividend omission sample firms from the periods 1970 to 1979 and 1969 to 1980 respectively. Specifically, the study tried to determine the changes in earnings as a function of the market adjusted return, lag change in earnings for the dividend initiation and dividend omission announcements. The results indicated that initial dividend payments have positive earnings changes both before and after the dividend policy change, while those omitting dividend payments have negative earnings changes.

Thomson and Watson (1989) investigated the historic cost and current cost earnings and the dividend decision by using profit after depreciation, profit after interest, profit before extraordinary items, net income and operating income plus depreciation as explanatory variables shows that historical cost profits provide the best explanation for dividend changes.

DeAngelo and DeAngelo (1990) studied the dividend policy of troubled NYSE firms in order to determine whether dividend cuts are a function of change in earnings, the number of continuous years a firm has paid dividends, binding debt covenants and losses. The results show the existence of high incidence of dividend cuts in firms that: (a) report multiple losses, (b) face binding debt covenants in the year they reduce dividends and for firms that do not have a binding debt covenant, dividends are cut rather than omitted. They also found that managers of firms with long dividend histories appear particularly reluctant to omit dividends.

DeAngelo, DeAngelo and Skinner (1992) studied the relationship of dividends changes and net income (levels and changes), annual losses (dummy), lag dividends; special items and extraordinary items using 167 firms as a loss sample and 440 firms as non-loss sample from the sample period of 1970-1985 and the testing period of 1980-1985. The results indicate that an annual loss is a necessary condition for dividend reductions in firms with established earnings and dividend records.

Simons (1994) studied the relationship between dividend changes and cash flows data from the years 1984 to 1985 with an explanatory variables of cash flow from operations, free cash flow, total cash flow, net income and lag dividends show that none of the proposed cash flow measures convey information about dividend changes beyond earnings.

Michaely, Thaler and Womack (1995) studied the price reactions to dividend initiations and omissions using the data from the period of 1964 to 1988. The results indicate that the magnitude of short-run price reactions to omissions is greater than for initiations. Omission announcements are associated with a mean price drop of 7 percent and initiations are associated with a price increase of over 3 percent.

Jensen and Johnson (1995) studied the dynamics of corporate dividend reductions by using 268 observations consisting of 218 cases of dividend reductions and 50 cases of dividend omissions for the periods 1974 to 1989. The explanatory variables used are twenty-one firm characteristics three years before and three years after a dividend drop: net income, operating income, stock price sale, costs of goods sold, SGA, current liabilities, acid assets, debt ratio, long term debt financing, equity financing, sales and purchases of fixed assets, labour expenses, number of employees, R & D and advertising expenses. The results indicate that firm earnings drop prior to a dividend reduction and increase afterwards. Following a dividend drop, firms tend to reduce assets expenditures, external financing activities, employees, and spend on R & D. Firms tend to sell more assets and their sales level remains depressed in the post-dividend-drop period. Overall, a dividend-drop marks the end of a firm's financial decline and the beginning of firm restructuring.

DeAngelo, DeAngelo and Skinner (1996) studied whether on abnormal future earnings are a function of historical earnings growth rate, current and past earnings and dividend signal using the data from 145 NYSE firms whose annual earnings decline after nine or more continuous years of growth for the period 1980 to 1987. Their results provide no support for the notion that dividend decisions help identify firms with superior future earnings. Dividends tend not to be reliable signals because a behavioral bias (over-optimism) leads managers to overestimate future earnings when growth prospects fade. Further, managers make only modest cash commitments when they increase dividends, undermining the reliability of such signals.

Kormendi and Zarowin (1996) studied the effects of permanent earnings and earnings (levels and changes) on dividend policy. The results indicate that dividends are changed primarily in response to permanent changes in earnings. Transitory earnings changes have little or no effect on dividends. Results are more consistent with a model that relates dividend and earnings changes rather than levels. Earnings and dividends are not co-integrated.

Akhigbe and Madura (1996) examined the long-term performance of corporations following dividend initiations and omissions. They found that

firms experience favorable long term share price performance following dividend initiations, while firms omitting dividends experience unfavorable long-term share price performance. They also found that firms experience significantly higher growth, higher capital investment, higher degree of financial leverage, and a higher dollar amount of earnings after dividend initiations. Firms that omit dividends experience lower growth, lower capital investments, and lower earnings.

The use of aggregate data to test a firm-specific hypothesis and the use of current earnings, which is a measure of short-run earnings performance, as a proxy for the future earnings of the firm may fail to document conclusively a causal relationship from dividends to future earnings (Daniels, Shin and Lee, 1997). Therefore, in their study, they decomposed the current earning of thirty firms into permanent and transitory components. Their study shows that dividend 'caused' permanent earnings for half the sample, while the causality study from dividends to current earnings fail to detect a causal relationship for more than eighty percent of the sample. The direct estimation of permanent earnings allows the information content of dividend hypothesis to be tested directly. The study provides empirical evidence that the dividend may serve as a surrogate for future earnings if earnings consists of permanent and transitory components, and if dividends depend on permanent earnings.

Benartzi, Michaely and Thaker (1997) investigated the information contents of dividend changes, specifically to determine whether changes in dividend signal an information about a firm's future or past. By using 7,186 observations between the year 1979 to 1991, their results indicate that firms which increase dividends in year 0 experience significant earnings increase in years-1 and 0. However these firms show significant increases in earnings in year 1. Firms which increase dividends are less likely than nonchanging firms to experience a drop in future earnings. Firms which increase dividends have significant positive excess returns of the following three years.

Charitou and Vafeas (1998) studied the association between operating cash flows and dividend changes by using 5,997 observations of data between the year 1981 to 1991. They found that there is a positive relationship between dividend changes and cash flows when the operating cash flows are low compared to earnings and when the firm growth is moderate. Fama and French (2001) analyzed the issue of lower dividends paid by corporate firms over the period 1973-1999 and the factors responsible for the decline. In particular, they analyzed whether the lower dividends were the effects of changing firm characteristics or lower propensity to pay on the part of firms. They observed that the proportion of companies paying dividend has dropped from a peak of 66.5 percent in 1978 to 20.8 percent in 1999. They attributed this decline to the changing characteristics of firms: "The decline in the incidence of dividend payers is in part due to an increasing tilt of publicly traded firms toward the

characteristics – small size, low earnings, and high growth – of firms that which have never paid dividends”.

Reddy (2004), examined the dividend behavior of Indian corporate firms over the period 1990 – 2001. Analysis of dividend trends for a large sample of stock traded on the NSE and BSE indicate that profit and firm’s size are the major determinant of dividends. However, firm’s growth doesn’t seem to deter Indian firms from paying higher dividends. The analysis of influence of changes in tax regime on dividend behavior shows that the tradeoff or tax-preference theory does not appear to hold true in the Indian context.

Research Methodology

Sampling

The data from Malaysia, Indonesia, Singapore, Thailand and the Philippines for the period 2001-2003 were collected from Data stream database. This research excludes companies with missing or incomplete observation and controls the effect of extreme values by removing observations that are in the top and bottom of 0.5% of dividend per share, cash flow per share and earnings per share. We also removed the observation that has a studentized residual greater than four standard deviations from zero in any regression of dividend changes and earnings or cash flows. In order to maintain the comparability, a final sample of 1131 companies is used in all tests performed.

Hypotheses Development the Association of Dividend Changes with Earnings Measures (Levels and Changes)

Most of the previous studies showed that earnings are positively correlated with dividend (for example Healy and Palepu, 1988; Fama and Blahnik, 1968 and Lintner, 1956). DeAngelo et al (1992) found that an annual loss is a necessary condition for dividend reductions in firms with established earnings and dividend increase. Fama and Blahnik (1968) and Lintner (1956) found that earnings and previous year dividend are the basic determinants of dividend changes. On the other hand, Healy and Palepu (1988) found that the firms which initiate dividend payment have positive earnings changes both before and after the dividend changes. While those omitting dividend payments have negative earnings changes. Kormendi and Zarowin (1996) and March and Merton (1997) found that dividends are changed primarily in response to permanent changes in earnings. According to Kormendi and Zarowin (1996), transitory dividend change has little or no effect on dividend. The results are more consistent with a model that relates dividend and earnings changes rather than levels. They

also found that earnings and dividend are not co-integrated. In this research, we hypothesized that:

H1: There exists a positive association between earnings measures (levels and changes in operating earnings) and dividend change in the sample of Southeast Asia companies.

Under this hypothesis, the slope coefficients of earnings level and changes are expected to be positive. In other words, it is expected that firms reporting losses will reduce dividend in the loss year. There are two possible explanations for these dividend reductions in the year of initial losses. First, to avoid violation of debt covenants. Second, because an operating loss reveals a deterioration in the firm's profitability, reduced dividends can provide the funds required for the firm's normal operations and to meet the legal obligations (DeAngelo and DeAngelo, 1990).

The Association of Dividend Changes with Cash Flows, Given Earnings

There are few studies conducted on the effect of cash flows on dividend changes. Majority of the studies focus on the association of accruals (earnings) with dividend policy (for example DeAngelo et al., Kormendi and Zarowin, 1996; March and Mertons, 1997; Healy and Palepu, 1988). Charitou and Vafeas (1998) found a positive relationship between dividend changes and cashflow (a) when operating cash flows are low than earnings, and (b) when the firm's growth is moderate. Ingram and Lee (1997) found that higher dividend payout ratios are associated with larger cash flows and firms that persistently generated more operating cash flows than earnings are likely to have higher dividend payout ratios.

On the other hand, Dechow (1994) criticized that cash flow are an insufficient and noisy measure of performance in so far as they are influenced by timing and matching problems. Charitou (2000) criticized earnings because (a) the management has some discretion over the recognition of certain accruals, which discretion can be used to convey private information or manipulate earnings; and (b) earnings do not fully capture the firm's liquidity position. Apart from that, Lawson (1996) contended that the dividend policies based on accrual earnings are inconsistent with ex ante shareholder value creation (SVC) model, that is, to maximize firm value, corporations should invest in project with positive net present values while simultaneously considering firm liquidity (cash flows). These limitations can cause accrual earnings to be a less reliable determinant of dividend policy. However Jensen and Johnson (1995) suggested that due to the limitations, neither cash flow nor earnings can be used in dividend policy choices. Therefore, this research hypothesized that:

H2: There exists a positive association between cash flow measures (level and changes) and dividend changes, given earnings in the sample of Southeast Asia companies.

According to this hypothesis, the slope coefficient of cash flow measures is expected to be positive, signifying the importance of cash flows in explaining dividend changes. Specifically, firms with cash flow deficiencies are more likely to reduce dividends because of the need to repay debt obligations and to raise cash for the firm's normal operations.

The Information content of Dividend Reductions, Earnings and Cash Flows as Predictors of Future Earnings

DeAngelo, DeAngelo and Skinner (1992) found that dividend reductions convey information that future earnings prospects are poor. Reddy (2004) found dividend changes appear to signal contemporaneous and lagged earnings performance rather than the future earnings performance. DeAngelo et al. (1992) have also argued that dividend and current earnings are likely substitutes for forecasting future earnings and that the information content of dividends will vary depending on the characteristics of current earnings. Watts (1973) and Benartzi et al. (1997) observed a weak association between unexpected earnings and dividend changes for randomly selected samples. DeAngelo and Palepu (1988) indicated that dividend reduction has incremental information content in predicting future earnings, given current earnings. According to DeAngelo et al. (1992) cash flows are also expected to be statistically significant in forecasting future earnings than in normal circumstances where earnings follow a random walk. Charitou (2000) found that dividend reduction, current operating earnings and cash flows have information content in predicting future earnings. Benartzi et al. (1997) found that the size of dividend increase does not predict future earnings. DeAngelo and DeAngelo (1998) found that managers of firms with long dividend histories appear particularly reluctant to omit dividend. DeAngelo et al. (1996) did not support the notion that dividend decisions help identify firms with superior future earnings. Dividends tend not to be a reliable signal because (a) behavioral bias (overoptimism) lead managers to overestimate future earnings when growth prospect fades. (b) managers make only modest cash commitment when they increase the dividend, undermining the reliability of such signal. Based on the past studies we hypothesize that:

H3: There exists a positive association between earnings increase and future earnings, given current earnings and cash flows in the sample of Southeast Asia firms.

According to this hypothesis, the slope coefficients of the dividend coefficients of the dividend changes, earnings and cash flows variables are

expected to be positive. A positive sign for the dividend changes variable implies that decreases (increases) in current dividends will lead to decreases (increases) in future earnings.

Empirical Models

The empirical models used to test the research hypotheses relate to: (a) the association of dividend changes with earnings and cash flows; and (b) the dividend reductions as predictors of future earnings and cash flows. In order to determine thoroughly the association of each independent variable, this research employed logit regression, which is widely used by researchers when investigating the influence of independent variables on dividend (for e.g. Deangelo, DeAngelo and Skinner (1982), Fama and French (2001) and Reddy (2004). Logit regression coefficients will be the estimate to analyze the association of dividend changes (DDIV) with the level and changes of operating earnings (E, E) and the level and changes in operating cash flows (CFO, CFO).

Before establishing the model, we considered the problem of collinearity between the independent variables. Earnings and cash flows are generally believed to be interrelated where cash flow is earnings that have been adjusted by the effect on cash items such as depreciation and amortization. The presence of collinearity, although less than perfect, will cause the coefficients to possess large standard errors (in relation to the coefficients themselves), which means that the coefficients cannot be estimated with great precision or accuracy. Therefore, to avoid misleading inferences from sample t-statistics, correlation test (based on the Pearson correlation) were conducted on the independents variables. The general rule as mentioned by Mason and Lind (1992) is that the correlations amongst the independent variables which are more than 0.70 or – 0.70 are considered to cause problems.

Table I shows that the levels of correlations are relatively moderate except for earnings level and cash flow level. These two variables are strongly correlated with Pearson correlation i.e. more than 0.70. Specifically the correlation is serious in Indonesia (0.896), Malaysia (0.735), Philippine (0.908), Singapore (0.798) and Thailand (0.872) where the relationship between the earnings level and cash flows level is significant at 1% level. We also found that the changes in earnings and changes in cash flow are affected by serious collinearity problem in the Philippines. For other correlations between independents variables, no serious problem that could mislead inferences of the results were detected.

Table 1: Pearson Correlation Between Independent Variables

Relation	Indonesia	Malaysia	Philippine	Singapore	Thailand
E ↔ DE	0.334***	0.564***	0.400***	0.643***	0.574***
E ↔ CF	0.896***	0.735***	0.908***	0.798***	0.872***
E ↔ DCFO	0.299***	0.270***	0.226	0.316***	0.361***
DE ↔ CF	0.267***	0.183***	0.303***	0.371***	0.370***
DE ↔ DCFO	0.348***	0.283***	0.758***	0.493***	0.571***
CF ↔ DCFO	0.551***	0.500***	0.145	0.341***	0.426***

Notes: The table indicates significance at 1% (***), 5%(**) and 10% (*) levels.

Based on the above results, the empirical models were developed by separating the strong correlated items into different equation. The models are as follow:-

Earnings Models

1. $\Delta \text{DIV} = b_0 + b_1 E$
2. $\Delta \text{DIV} = b_0 + b_2 \Delta E$
3. $\Delta \text{DIV} = b_0 + b_1 E + b_2 \Delta E$

Cash Flow Models

4. $\Delta \text{DIV} = b_0 + b_4 \text{CFO}$
5. $\Delta \text{DIV} = b_0 + b_5 \Delta \text{CFO}$
6. $\Delta \text{DIV} = b_0 + b_4 \text{CFO} + b_5 \Delta \text{CFO}$
7. $\Delta \text{DIV} = b_0 + b_2 \Delta E + b_5 \Delta \text{CFO}$

Where

- ΔDIV : a dummy variable takes the value of 0 if the firm announced a reduction (cut omission in its regular dividend in the year under study, otherwise it takes the value of 1 (increase or no change from one year to the next).
- E : Earnings before interest and taxes earnings deflated by the number of issued ordinary share capital.
- ΔE : The difference between current and prior year earnings before interest and taxes earnings deflated by the number of issued ordinary share capital.
- CFO : Operating cash flows deflated by the number of issued ordinary share capital.
- ΔCFO : The difference between current year and prior year CFO

The coefficients of the earnings and cash flow variables are expected to be positive, showing the incremental importance of earnings, losses and cash flows in explaining dividend changes.

Dividend Reductions as Predictors of Future Earnings

The following models are used to test the effect of dividend reductions (ΔDIV_t), cash flows (CFO_t) and earnings (E_t) as predictors of future earnings (E_{t+1}):

8. $E_{t+1} = a_0 + a_1 E_t$
9. $E_{t+1} = a_0 + a_2 CFO_t$
10. $E_{t+1} = a_0 + a_3 \Delta DIV_t$
11. $E_{t+1} = a_0 + a_4 CFO_t + a_5 CFO_t$
12. $E_{t+1} = a_0 + a_1 E_t + a_3 \Delta DIV_t$
13. $E_{t+1} = a_0 + a_3 \Delta DIV_t + a_4 CFO_t$
14. $E_{t+1} = a_0 + a_1 E_t + a_3 \Delta DIV_t + a_4 CFO_t$

Where

- E : operating earnings deflated by the number of issued ordinary share capital
- CFO : cash flow from operations operating earnings deflated by the number of issued ordinary share capital.
- ΔDIV : a dummy variable that takes the value of 0 if the firm announced a reduction (cut or omission) in its regular dividend in the year under study, otherwise it takes the value of 1 (increase or no change from one year to the next).
- t : year

The coefficients ΔDIV , CFO and E are expected to be positive if the variable(s) can signal the future financial performance of the companies.

Findings

Descriptive Statistics

Results in Table 2 show the incidence of reductions, omissions and increases in common stock dividends for the firms in both non-loss and loss categories. The results is quite interesting since contrary to previous studies, it showed a high reductions/omissions rate for firms from the non-loss sample as compared to firms in the loss sample. The results seems to be applicable in all the other countries except Malaysia and Singapore. The results for Malaysia and Singapore showed a relatively high incidence of dividend reductions/omissions in the loss sample.

We believe that in Thailand, Indonesia and the Philippines there is a tendency to maintain a smooth dividend payment. According to Lintner (1956), a firm tends to maintain a steady stream of dividends and make a periodic partial adjustment to target payout ratio rather than dramatically changing their payout when a change in earnings occurs. In short, dividends are smoothed to avoid frequent changes. On the other hand, DeAngelo and DeAngelo (1998) found that the managers of a firm with long dividend record appear reluctant to omit dividend.

Table 2: Incidence of Reductions, Omissions and Increases in Common Stock Dividends for Firms in Both Non-Loss and Loss Categories

	Number of Dividend									
	Number of Firms		Reductions		Omissions		Reductions and Omissions		Increases	
	No	%	No	%	No	%	No	%	No	%
Indonesia										
Loss	2	1.6	0	0.0	0	0.0	0	0.0	2	100.0
Non-Loss	126	98.4	26	20.6	23	18.2	49	38.8	77	61.1
Malaysia										
Loss	35	7.7	13	37.0	6	17.1	19	54.3	16	45.7
Non-Loss	419	92.3	177	42.2	24	6.0	201	48.0	218	52.0
Philippine										
Loss	2	4.9	0	0.0	0	0.0	0	0.0	2	100.0
Non-Loss	39	95.1	13	33.3		12.8	18	46.1	21	53.8
Singapore										
Loss	20	7.4	2	10.0	3	15.0	5	25.0	15	75.0
Non-Loss	252	92.6	46	18.3	11	4.0	57	22.3	195	77.4
Thailand										
Loss	6	2.5	1	16.7	0	0.0	1	1.7	5	83.3
Non-Loss	230	97.5	36	15.7	12	5.0	48	20.7	182	79.1
Total										
Loss	65	5.7	16	24.6	9	13.8	25	38.5	40	61.5
Non-Loss	1066	94.3	298	28.0	75	7.0	373	35.0	693	65.0

The results also showed (except for Malaysia and Singapore) a higher percentage of firms in the loss sample which increase their dividend compared to firms from the non-loss sample. As for Malaysia and Singapore, the results are consistent to general belief where there is a high incidence of firms in the non-loss sample increasing their dividend than firms in the loss sample.

The overall results showed that 38.5% of the loss firms reduced or omitted dividend payment compared to 35% in the non-loss firms. These results are consistent with previous research (De Angelo et al., 1996; Charitou, 2000) where

the high incidence of firms in the loss sample reduced or omitted their dividend compared to firms from the lon-loss sample. However in this case, we could not infer that loss is an important factor associated with dividend reduction or payment due to minor differences.

Table 3: Incidence of Dividend Reductions/Omissions and Increases for Various Levels of Return on Equity (ROE)

Return on Equity	Malaysia		Singapore		Thailand		Indonesia		Philippine		Total	
	O + R	I	O + R	I	O + R	I	O + R	I	O + R	I	O + R	I
-10% or lower	20	8	8	4	6	3	5	1	1	1	40	17
- to10% 8%	2	1	2						1		5	1
- 8% to 6%	1	2	2	2	3						6	5
-6% to 4%	9	3	2	2	1		1		1		14	5
-44% to 2%	6	1	2	4	1		2				11	5
-2% to 0%	13	2	3	1	2	1	2				20	4
0% to 2%	20	11	5	12	1	4	5	5	1	1	32	33
2% to 4%	30	20	4	22	1	7	1	5	3	1	39	56
4% to 6%	25	19	5	22	3	10	4	6	2	1	39	58
6% to 8%	15	30	8	26	4	11	5	7	4	5	36	79
8% to 10%	15	29	5	13	7	11	3	4	0	4	30	61
Above 10%	64	107	16	101	20	140	21	51	5	10	126	409
Total	220	233	62	210	49	187	49	79	18	23	398	733

Table 3 illustrates the incidence of dividend reductions for various levels of return on equity (ROE). The results indicated that the reduction rate for positive ROE is higher than the firms from the negative ROE. The results seem to be applicable to all countries and there is a need for further investigation on the information contents of annual losses (ROE) on dividend policy for firms with established earnings and dividend records. As for dividend increases, the result shows a high rate of dividend increases come from firms with positive ROE.

Empirical Result

Earnings Models

Table 4 presents logistics regression results of the association of dividend reductions with earnings and earnings changes. It is found that in Malaysia and the Philippines, a positive and significant association between earnings and dividend changes were found. We also found a phenomenon where the firm which experience a positive change in earnings have a greater tendency to increase dividend in all the studied countries except for the Philippines.

We then used the explanatory power of regression (1) to (3) to measure the importance of earnings and earning changes in explaining dividend changes. In Indonesia and Thailand, the earnings change was a more dominant factor compared to earnings level in explaining the dividend changes, where 19% (17%) of changes in dividend payment can be explained by earnings changes compared to 1% (3%) by earnings level in Indonesia (Thailand). A contradictory

Table 4: Summary of Logit Analysis on the Decision to Reduce Dividends by Utilizing Earnings Information (Level, Changes and Losses) as the Independent Variables

Model	Constant	E	ΔE	R ²
Indonesia				
1	0.41**	3.33		0.01
2	0.67***		89.51***	0.19
3	0.70***	-2.04	90.45***	0.19
Malaysia				
1	-0.32***	10.13***		0.05
2	0.03		13.58 ***	0.05
3	-0.24	7.25***	9.09***	0.06
Philippine				
1	-0.37	56.87***		0.13
2	0.30		57.53*	0.07
3	-0.23	47.45*	30.02	0.15
Singapore				
1	1.01***	8.95***		0.16
2	1.22***		12.66***	0.04
3	1.07***	6.35	10.00**	0.05
Thailand				
1	1.01***	5.71		0.03
2	1.35***		29.59***	0.17
3	1.37***	-0.41	29.88***	0.17

Notes: The table indicates significance at 1%(***), 5%(**) and 10%(*) levels.

result is found in the Philippines where earnings is more important explanatory variable of dividend changes, where 13% of dividend changes can be explained by earnings level compared to 7% by earnings changes. In Malaysia we found that both variables that are earnings level earnings changes are equally important in explaining the dividend changes ($R^2 = 6\%$).

Cash Flow Models

Table 5 presents logistic regression results of the association of dividend reductions with cash flows level, cash flows changes and earnings changes.

Table 5: Summary of Logit Analysis on the Decision to Reduce Dividends by Utilizing Cash Flow Information (Level and Changes) as the Independent Variables, Given Earnings Changes

Model	Constant	ΔE	CFO	ΔCFO	R^2
Indonesia					
4	0.41**		1.98		0.01
5	0.46**			6.53	0.02
6	0.45**		0.22	6.33	0.02
7	0.67***	85.39*		15.38***	0.20
Malaysia					
4	-0.19		3.48***		0.02
5	-0.02			9.36***	0.03
6	-0.12		1.62	7.71***	0.03
7	-0.01	9.59		6.16	0.05
Philippine					
4	-0.41		31.58*		0.11
5	0.28			10.50	0.01
6	-0.38		31.23*	6.34	0.11
7	0.23	118.21		-35.29*	0.11
Singapore					
4	1.08***		1.90		0.00
5	1.14***			1.48	0.00
6	1.10***		1.94	0.74	0.00
7	1.22***	15.81***		-3.72	0.05
Thailand					
4	1.18***		1.50		0.01
5	1.28***			16.68***	0.08
6	1.23***		0.52	16.67***	0.08
7	1.34***	26.23		4.55***	0.17

Notes: The table indicate significance at 1%(***), 5%(**) and 10%(*) levels.

Generally, the result denotes that cash flow information is less important in southeast Asia countries except for the Philippines and Thailand. The results show that cash flow level is consistently significant in the Philippines when given earnings changes and cash flow changes. In the case of Thailand, changes in operating cash flow were consistently significant with given earnings changes and cash flow level. The results from Malaysia recorded that cash flow changes are significant when the cash flows level is given, whereas in Indonesia and Singapore, no significant and consistent results were found to link the cash flow information and the likelihood of dividend reduction.

The overall explanatory power of cash flows level and changes were lower compared to explanatory power of earnings level and changes. In Malaysia, Indonesia, Singapore and Thailand, the cash flow level could only explain between 1% to 2% of dividend changes. However in the Philippines the cash flows level could explain about 11% of dividend changes. The explanatory power of change in operating cash flow for Malaysia and Thailand were about 3% and 8% respectively. The explanatory power of cash flow information is lower compared to explanatory power of earnings information. These results indicate than in Southeast Asia, the earnings information is more dominant in explaining the changes in dividend policy.

Information Content of Changes in Dividend, Earnings and Cash Flows as Predictor of Future Earnings

Table 7 shows the results of the association of dividend reductions, current earnings and current cash flows with future earnings. The third hypothesis posits that dividend reductions, current cash flows and current earnings are predictors of future earnings.

Based on the table, the coefficients of the earnings and cash flow variables are positive and statistically significant in all models tested in all countries included in this research. The results verified that cash flows and earnings have information content in explaining future earnings. The dividend reduction is found to be insignificant in all models and countries under study. This result rejected the hypothesis that dividend reduction has information content in explaining future earnings. In other words, dividend reduction cannot be used to signal investors about the future performance of the companies. This result is in contradictory with other findings such as DeAngelo et al. (1992) and Charitou (2000).

Apart from that, the explanatory power of earnings was found to be higher compared to cash flows in Thailand, Singapore and the Philippines. In Malaysia and Indonesia, the explanatory power of cash flow was found to be higher than earnings. The analysis revealed that the combination of cash flows and earnings (model 4) resulted in the highest explanatory power in all countries that is

Indonesia (79%), Philippines (99%), Malaysia (33%), Singapore (47%) and Thailand (55%).

Sensitivity Analysis

Additional statistical tests were performed to ascertain the robustness of the previous results. The new independent variable that is dividend changes (percentage) is used to replace the dividend changes (dummy variable). Apart from that, a new statistical technique that is, by using the ordinary least square (OLS) regression was used to accommodate the changes in the independent variable and to examine the linear relationship between dividend changes and earnings, losses and cash flows.

Table 6: Summary of OLS Regressions of Future Earnings (E_{t+1}) On Current Earnings (E_t), Current Cash Flows (CFO_t) And Changes In Dividends (ΔDIV_t)

Model	Constant	E	CFO	ΔDIV	Adj.R ²
Indonesia					
8	0.00	0.75***			0.67
9	0.00		0.82***		0.75
10	0.03**			-0.01	0.00
11	0.00**	0.29***	0.57***		0.79
12	0.00	0.74***		0.00	0.67
13	0.00		0.82***	0.00	0.75
14	0.00	0.29***	0.57***	0.00	0.79
Philippine					
8	0.00	10.4***			0.98
9	0.00		0.67***		0.91
10	0.02			0.08	0.02
11	0.00	1.87***	-0.58***		0.99
12	0.00	1.04		0.00	0.98
13	0.00		0.69	0.01	0.91
14	0.00	1.87***	-0.58***	0.00	0.99
Malaysia					
8	0.01***	0.41***			0.22
9	-0.01***		0.61***		0.26
10	0.02**			0.00	0.00
11	-0.01*	0.28***	0.44***		0.33
12	0.01**	0.43***		0.00	0.22
13	-0.01		0.61***	0.00	0.26
14	-0.01	0.44***	0.28***	0.00	0.33

continued

Table 6 – *continued*

Singapore					
8	0.02***	0.83			0.40
9	0.00		0.54***		0.37
10	0.03**			0.00	0.00
11	0.01	0.56***	0.31***		0.47
12	0.01	0.83***		0.00	0.40
13	0.00		0.55***	0.00	0.37
14	0.00	0.54***	0.31***	0.00	0.47
Thailand					
8	0.02***	0.88**			0.50
9	-0.01		0.64***		0.43
10	0.04**			0.00	0.00
11	0.00	0.61***	0.29***		0.55
12	0.00	0.89***		0.02*	0.51
13	-0.02*		0.64***	0.02	0.43
14	-0.02	0.62***	0.29***	0.02*	0.55

Notes: The table indicates significance 1t 1%(***), 5%(**) and 10%(*) levels.

Table 7: Summary of OLS Regression on the Dividend Changes by Utilizing Earnings Information (Level, Losses and Changes) as the Independent Variables

	Constant	E	ΔE	Adj.R ²
Indonesia				
1	0.00	0.10***		0.16
2	0.00		0.37***	0.53
3	0.00	0.05***	0.34***	0.56
Malaysia				
1	0.00	0.04***		0.10
2	0.00		0.37	0.03
3	0.00	0.05***	0.00	0.09
Philippine				
1	0.00	0.09*		0.07
2	0.00*		-0.04	0.01
3	0.00	0.10*	-0.03	0.05
Singapore				
1	0.00*	0.05***		0.19
2	0.00***		0.06***	0.09
3	0.00*	0.05***	0.01	0.19
Thailand				
1	0.00	0.12***		0.24
2	0.01***		0.33***	0.35
3	0.00	0.06***	0.25***	0.38

Notes: The table indicates significance 1%(***), 5%(**) and 10%(*) levels.

Based on table 7, earnings level is found to be significant in all models and countries. This results implies that the amount of dividend changes were linked to the earnings level. If compared to the previous finding, in majority of the countries, earnings changes have greater impact on the dividend reduction decision but the amount of reduction is more associated with earnings level. Based on table 7, earnings changes are found to be significantly associated with dividend changes in Indonesia, Singapore and Thailand. In Malaysia and Philippines, the earnings level is the only variable that could explain the changes in dividend. The combination of earnings level and earnings changes recorded the highest explanatory power in all countries that is Indonesia (56%), Singapore (19%) and Thailand (38%).

Table 8: Summary of OLS Regression on the Dividend Changes by Utilizing Cash Flow Information (Level and Losses) as the Independent Variables, Given Earnings Changes

	Constant	DE	CFO	DCFO	Adj.R ²
Indonesia					
4	0.00		0.06***		0.09
5	0.00			(0.05)***	0.02
6	0.00		0.07***	(-0.01)	0.08
7	0.00	0.39***		(-0.04)*	0.53
Malaysia					
4	0.00		0.04***		0.11
5	0.00***			0.05***	0.05
6	0.00		0.03***	0.02*	0.12
7	0.00***	0.02**		0.05***	0.06
Philippine					
4	0.00		0.06*		0.06
5	0.00*			-0.12***	0.16
6	0.00		0.07**	-0.14***	0.27
7	0.00**	0.47***		-0.33***	0.52
Singapore					
4	0.00		0.04***		0.14
5	0.00***			0.06***	0.07
6	0.00*		0.03***	0.03***	0.16
7	0.00***	0.05***		0.03**	0.11
Thailand					
4	0.00		0.06***		0.13
5	0.01***			0.19***	0.18
6	0.00		0.04***	0.14***	0.22
7	0.01***	0.28***		0.06***	0.36

Notes: The table indicates significance at 1%(***), 5%(**) and 10%(*) levels.

The previous analysis which focused on whether the dividend reduction decision is based on the cash flow information (level and changes) found that cash flows level and changes are only significant in Malaysia (cash flows changes), the Philippines (cash flows level) and Thailand (cash flows changes).

The results in Table 8 shows that the decision on the amount of dividend cut or increase is significantly associated with cash flows level and cash flow changes. Compared to earnings information, the cash flows level and changes recorded the highest explanatory power in Malaysia (12%) and Singapore (16%). In Indonesia, the Philippines and Thailand, the earnings changes and cash flows changes recorded the highest explanatory power that is 53%, 52%, 36% respectively. This result indicates that different countries give different weight on the earnings and cash flows information in making their dividend reduction or dividend changes decision.

Summary and Conclusion

This research examines the impact of cash flows, earnings and losses in setting dividend policies in Malaysia, Singapore, Indonesia, Thailand and the Philippines. A phenomenon where a firm which experiences a positive change in earnings has a greater tendency to increase dividend was found in all countries studied except the Philippines. Descriptive statistics shows that a loss or non-loss firm is not a factor to trigger dividend changes. Regression analysis revealed that cash flows information is found to be less important compared to earnings information in Southeast Asia countries except for the Philippines and Thailand. The research also found that cash flows and earnings have information content in explaining future earnings. However, dividend reduction cannot be used to signal investors about the future performance of the companies. The sensitivity analysis resulted that earning changes is found to be significantly associated with dividend changes in Indonesia, Singapore and Thailand. In Malaysia and the Philippine, the earnings level is the only variable that can explain the changes in dividend. On the other hand, cash flows information (level and changes) are significant in Malaysia (cash flows changes), Philippine (cash flows level) and Thailand (cash flows changes). This results means that the decision on the amount of dividend cut or increase is significantly associated with cash flows level and cash flows changes. In conclusion, different countries give different weight on the earnings and cash flows information in considering their dividend payment decision.

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