Are Cash Flows Relevant for Stock Pricing in Bursa Malaysia?

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ABSTRACT

The research on whether information on cash flows have any impact beyond earnings disclosures has inconclusive results. Changes in cash flows are found to have significant impact beyond that of earnings only if share price changes are measured over a short window of about 3 days and not over a long window of say annual or 51 days windows. The results show that cash flow changes measured over one-year intervals did not affect share prices. This is also reconfirmed using the portfolio approach. To recapitulate, though cash flows appear to have no information content on share prices in the annual and medium windows tests, it does have information content in the short window tests with incremental information content beyond earnings, implying it has relevant value information though investors are more comfortable with earnings announcements for share price valuation. This finding reported from an emerging economy is consistent with evidence from developed markets.

Keywords: Cash Flows, Earnings, Returns Window, Incremental Information, Portfolio Approach.

INTRODUCTION

There is a substantial body of literature on how accounting earnings disclosures affect share prices: see Beaver, Clarke and Wright (1979), and Ball, Kothari, and

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Watts (1993). Though cash flow statements have been disclosed for almost fifteen years in some countries, the impact *cash flow* disclosures on share prices is inconclusive (Bernard and Stober, 1989; Ali 1994; Dechow 1994; and Clubb, 1995, Charitau and Clubb, 1999, Cheng, Ariff and Shamsher, 2001) and have not been as extensively researched as accounting earning disclosures.

Many critics have argued that the earnings statement is basically an accounting ratio derived from information in the profit and loss account and the balance sheet, and thus has all the limitations and weaknesses (Lev, 1989) of accounting information. Many users, particularly the more naïve investors and shareholders, may take the earnings *per se* as relevant for revaluation of share prices. However, year-to-year changes from movements of items of current assets and current liabilities can be argued as being relevant to liquidity, solvency and viability of an enterprise. Any liquidity squeeze that might have occurred during the reporting period is not readily apparent from earnings data, but will be clearly apparent from cash flow statement.

This paper adds new evidence on the impact cash flow disclosures on share prices (a measure of value content of cash flows) in a developing Malaysian share market. Malaysia is chosen as it represents a large number of emerging markets; it is known to be Fama-efficient (Anwar *et al*., 1994) and where accounting earnings disclosures significantly affect share prices (Cheng *et al*. 2001). This market is quite liquid than most emerging markets,[1] and the disclosures of cash flow statements are mandatory since 1996.

It is still not known if cash flows have any price impact in this market at the time of cash flow disclosures. The information gathered is analyzed using risk-adjusted returns with corrections for non-synchronous errors, removing confounding events, and using portfolio aggregation method and regression. Given the inconclusive evidence on the usefulness of cash flow disclosures compared to earnings in developed markets, it is felt worthwhile to conduct a further test in an emerging market context.

The rest of the paper is organized as follows. A review of the relevant literature is presented in Section 2, Section 3 discusses the data, hypotheses, and methodology. The findings are presented and discussed in Section 4. Section 5 concludes the paper.

REVIEW OF LITERATURE

Evidence reported for U.S. accounting disclosures in general suggests that the accounting earnings disclosures add incremental information beyond that provided

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[1] The value traded per listed firm is US$177 million per year compared with the figure of $144 for the world average.

by cash flows/fund flows. Thus studies on the impact of operating cash flows have produced mixed results, with no general agreement about the usefulness of cash flow disclosures. Jennings (1990) provided a review of two previous studies (Rayburn, 1986; Bowen *et al*., 1987): it claims that both cash flow and accrual components add more information beyond those provided by accounting earnings.

Dechow (1994) hypothesised that the accrual process is to mitigate timing and matching problems inherent in cash flows so that earnings more closely reflect firm performance. Alternatively, she postulates that if the dominant effect of accruals is to provide management with flexibility to manipulate earnings, then realized cash flows will provide a relatively more useful summary measure of firm performance over short measurement intervals. Dechow (1994) used returns interval of quarterly (3 months), annually and four-yearly and documented that cash flows suffer more severely from timing and matching problems that reduce their ability to reflect firm performance.

Ali (1994) estimated linear model of annual stock returns against changes in earnings, working capital from operations and cash flows. His results suggest that earnings have incremental information content beyond working capital and cash flows, and that working capital has incremental information content beyond earnings and cash flows. But, the cash flows have no incremental information beyond earnings and working capital. When a non-linear regression is fitted, the results showed that cash flows have incremental information value in the cases of firms with low cash flows; earnings had incremental value for firms with high cash flows.

In the U.K., Ali and Pope (1995) reported that earnings have higher information value than both fund flows and cash flows. Clubb's (1995) paper also confirmed the same finding for the U.K. market. But this finding is weak at best, thus leading to a mixed interpretation. Dechow (1994) and Cotter (1996) found that over short return intervals, it is current accruals, rather than non-current accruals that play the dominant role. Cotter's (1996) studied using Australian data showed that the association between stock returns and earnings is higher than that of total cash flows for return intervals of between one and ten years.

Cheng, Chao and Schaefer (1996) showed that the mean combined earnings coefficient is 0.52. For cash flows from operations, the mean combined coefficient is 0.37, which is obviously a result favoring earnings. Thus, both the combined earnings and combined cash flows from operations show significant incremental information content, but the impact of earning coefficient is larger than that of the operating cash flows. Their result contrasts with Ali's (1994) where change in cash flows from operations fails to yield incremental information in a linear model. Their analysis further documented that the incremental information content of accounting earnings decreases, but increases with a decrease in the permanence of earnings. This suggests a likely non-linear relationship.

Charitau and Clubb (1999) used returns intervals of one, two, and four years for U.K. firms provides evidence of increased information content of cash flow variables and continued incremental information content of cash flow variables beyond aggregate accounting earnings as the return interval increases. However, their univariate regression results provide evidence that, cash flow from operations and change in cash are weaker explanatory variables for security returns that accounting earnings over one-, two- and four-year return intervals, the relative performance of the cash flow variables improving as the return interval increases. Hence, the empirical reports have mixed results requiring further research in more markets.

RESEARCH DESIGN, HYPOTHESES AND DATA

(i) Research Design

We use measures of earnings, operating cash flows as the standard defined measures. Returns are measured as the cumulative abnormal returns estimated using the market model to derive abnormal returns; the standard event study method is applied.

Analysis of Abnormal Returns: Sharpe's (1963) Market Model as a standard general equilibrium relationship for asset returns is used. Abnormal returns are:

$$AR_{it} = R_{it} - [\alpha_i + \beta_i R_{mt}] \tag{1}$$

With $R_{it} = Ln(P_{it}/P_{i\,t-1})$ and $R_{mt} = Ln(I_t/I_{t-1})$. In addition to the terms already defined, Ln is natural logarithm and I refers to market's composite index.[2] The market parameters a_i and b_i are estimated by ordinary least square regression over all the weekly trading periods over -250 days to -50 days (estimation period): the alpha from the regression is then converted to daily values for use in equation (1). A major issue of concern is that stocks traded in this emerging market are thinly traded (as evidenced in Annuar *et al*. 1994), precipitating a non-synchronous trading bias in measured values. This study mitigates this problem through the use of the Fowler-Rorke correction on the OLS betas. A minimum of 60 weekly traded data were used to estimate the alpha and the beta.

The resulting risk-adjusted abnormal returns of each firm/disclosure are added across time for all the observations to obtain the CAR_i as the simple cumulative abnormal returns in percentage. The cumulative returns over $t = t, \ldots, T$ is cumulated as:

$$CAR(\tau, T)_i = \sum_{t=\tau}^{T} AR_{it} * 100 \tag{2}$$

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[2] The log model is used, because log model mitigates the problem of skewness in the returns distribution.

The cumulating is done over price reaction windows consistent with other studies. The cumulative abnormal returns will be used in the regression tests as the dependent variable, and assuming the data is approximately normally distributed.

Analysis of Unexpected Accounting Earnings: Unexpected earnings are computed using the naive expectation model (Cheng, Ariff and Shamsher 2000), which assumes that the next period's expectation is simply the current period's earnings. This is also consistent with the design of the study to identify the contemporaneous effect of price change at a point in time.

The accounting earnings are defined as follows:

$$EPS = (EASH-PREFDIV-MINOR)/NoEQ \qquad (3)$$

where,   EASH   : earnings attributable to shareholder,
        PREFDIV : preferred dividends,
        NoEQ   : number of shares measured as average outstanding,
        MINOR   : minority interest,

Unexpected earnings (UEs) are computed using the naive model:

$$UE_{it} = E_{it} - E_{i(t-1)} \qquad (4)$$

The unit normal variables are estimated as follows:

$$SUE_i = UE_i/\sigma_{(UEi)} \qquad (5)$$

$$\sigma_{(UEi)} : \text{standard deviation of UE}$$

This transformation, which mitigates the effect of changing variance or heteroscedasticity on the variables, yields unexpected value of earnings variable adjusted for volatility differences, $\sigma_{(UEi)}$.

Analysis of cash flow from operation: We measure the cash flows from operations similar to Ali (1994). The definitions of cash flows and the annual data items from KLSE Annual Handbook are used to compute cash flows as follows:

Cash flows from operations (CFO) = earnings + adjustments for elements of earnings not affecting working capital (depreciation, etc) – change in non-cash current assets from operation (stock, debtors and other current assets) + change in current liabilities from operations (creditors and other current liabilities)

Unexpected cash flows (CFOs) are computed using the naive model:

$$UCFO_{it} = CFO_{it} - CFO_{i(t-1)} \qquad (6)$$

The unit normal variables are estimated as follows:

$$SUCFO_i = UCFO_i/s_{(CFOi)} \qquad (7)$$

$s_{(CFOi)}$: standard deviation of UCFO

A set of nine returns equations of the following form were estimated for each company in the sample using OLS:

$$CAR\ (n)_{it} = \delta_0 + \delta_1 * SUE_{it} + e_{it} \qquad (8.1)$$

$$CAR\ (n)_{it} = \delta_0 + \delta_2 * SUCFO_{it} + e_{it} \qquad (8.2)$$

$$CAR\ (n)_{it} = \delta_0 + \delta_1 * SUE_{it} + \delta_2 * SUCFO_{it} + e_{it} \qquad (8.3)$$

where CAR_{it} : is some measure of risk-adjusted return in percentage for security i cumulated over period t,

$\qquad$ n $\qquad$: 1 year, 51 days and 3 days windows,

$\qquad$ SUE_{it} : is a measure of standardized unexpected earnings,

$\qquad$ $SUCFO_{it}$: is a measure of standardized unexpected cash flows from operation, and

$\qquad$ e_{it} $\qquad$: is a random disturbance term assumed to be normally distributed.

We hypothesise positive values for δ_1 and δ_2. A positive δ_1 with larger magnitude and more significant t-values than δ_2 implies that the market responds more favorably to earnings than cash flows. Otherwise, the conclusion is: possibly because earnings are subject to manipulation and cash flows indicate high liquidity signaling financial prosperity (Ali 1994).

(ii) Hypotheses

The major hypothesis in this study is that cash flow change has information content beyond earnings. The two strategic hypotheses are:

H1[s]: *Cash flows have no information content;* and

H2[s]: *Cash flows have no incremental information content beyond accounting earnings data in relation to company share prices.*

The null will be accepted if there is no significant relation between stock price changes and unexpected cash flows changes but significant relation between stock price changes and unexpected earnings changes: i.e. t-statistics for δ_2 is not significant, and δ_1 is significant. We expect the null to be rejected for hypothesis 1 and null not to be rejected for hypothesis 2.

(iii) Data

The data set was made from the daily closing prices and earnings/cash flow information in the following sources: Securities Clearing Automated Network

Services (SCANS) in the Kuala Lumpur Stock Exchange (KLSE); the financial information from the *Company Annual Reports* and/or the *KLSE Annual Company Handbooks*; and the earnings announcements obtained from *Investors Digest* and *KLSE Daily diar*y. Data relate to the period 1988 to 1997. The sample consists of listed and traded companies over the test period. These companies are subjected to the following selection criteria: the companies should have recorded traded prices 70 percent of the time in the daily data set; the companies are Malaysian-domiciled and not foreign companies; the annual reports containing accounting statements are publicly available. Information on capitalization changes (bonus and right issues) and dividends as in the KLSE *Investors Digest* were used to make adjustments. The Annual Companies Handbook provided information regarding the history of each listed company, as well as financial information, earnings records, earnings announcement dates, the annual turnover and the number of shares outstanding, etc. The *KLSE Daily Diary* is another accurate source of data on company earnings announcements and stock price data serving as a source for checking inaccuracies.

The prices are then converted into daily and monthly returns (depends on the length of the returns window). The returns calculated were scrutinized for error using filter test. Large changes of three standard deviations and above were checked for transcription errors. If any, these were corrected by comparing the SCAN record, investor digest and the *KLSE Daily Diary*.[3]

During the test period, no major events occurred affecting the accounting profession. The exceptions are: the revision of Ninth Schedule of the Companies Act in 1985, which specifically requires that a statement of source and application of funds be an integral part of the financial statement; establishment of the Securities' Commission under the Securities Commission Act 1993; and issuance of Policies and Guidelines on the issue/offer of securities in December 1995, which contains the corporate disclosure policy, post-listing obligations and standards on Valuation/Revaluation of Assets. Therefore our sample during this period is considered clean from major institutional changes in accounting processing.

Earnings announcements were collected for all stocks on the main board only. The date of publication of earnings results are taken as the announcement date, even though it is highly likely that this information is more likely to be known to the public at large within a day or two of the date.[4] Imposing the selection criteria listed in this methodology section led to removal of rights, bonus, and special

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[3] An outlier test procedure of three-standard deviation was used. Each extreme observation identified was checked to ensure that it represents a legitimate extreme value and is not a data error.

[4] This study uses the same set of data from Cheng, Ariff and Shamsher 2001. A total of more than 4,000 observations were collected. After careful screening, excluding finance companies and after subjecting the selection to the criteria set, we obtained a much smaller useable sample.

issue announcements in order to remove confounding effects of these non-earnings disclosures. A total of 160 companies in KLSE main board were identified with records on earnings announcements. However, only 90 companies were finally selected for analysis that complied with the set criteria. The announcements of un-audited financial year-end sample consisting of 365 earnings announcement are included. In performing outliers test, cases with residual greater than three standard deviation values were identified and excluded from the final regression: the final sample consisted of 362 observations.

Table 1 shows the descriptive statistics on the sample size measured by their market capitalization. The sizes of the selected companies (as measured by market capitalization) varied from RM 40 million to RM 13,573 million. The mean size is RM 1,968 million with a standard deviation of RM 4,142 million.

Table 1   The Descriptive Statistics of the Sample: n=362, Market capitalization

Size of Companies RM ' 000	
Mean	1,968,578
Standard Deviation	4,142,025
Minimum	39,851
Maximum	13,573,063

FINDINGS

This section summarizes test results on the incremental information content of earnings and cash flows from operations at individual company level, which are reported first followed by findings on 25 portfolios (the portfolio approach remove aberrations experienced using individual companies). The estimated linear model from regression models (1) to (9) provided results for comparison with prior studies.

Table 2 provides descriptive statistics for CAR, SUE and SUCFO variables for comparison. The CAR varies from –9.3 to 8.9 percent for three days window and –63.38 to 68.80 percent for the 1 year's window. The number of observations are 362 for CAR (1yr), CAR (–50,+1) and CAR(–1,+1). The Jarque-Bera normality tests show that all distributions are normally distributed.

The SUCFO for 1 year window are as expected to be more volatile than SUE, as indicated by the lager variance and range for SUCFO than the SUE. This is in line with the accrual concept of estimating earnings for firms, and the earnings smoothing effect by the manager of firms. This is similar to the descriptive statistics presented in Charitou and Clubb (1999) and Dechow (1994), where both suggest that accruals offsets extreme negative and positive cash flows realization associated

Table 2   Descriptive Statistics of CARs, SUE and SUCFO

The descriptive statistics present here are CAR, SUE and SUCFO variables for comparison. The number of observations are 362.

	CAR(1yr)	CAR50	CAR1	SUE(1yr)	SUCFO(1yr)
Mean	-0.888	0.283	-0.031	0.264	0.100
Standard Deviation	23.69	10.93	3.13	0.868	0.915
Kurtosis	0.227	0.321	0.181	0.299	0.494
Skewness	0.184	0.071	-0.072	-0.216	0.046
Range	132.19	64.51	18.33	4.507	5.268
Minimum	-63.38	-32.15	-9.30	-2.125	-2.543
Maximum	-68.80	32.36	8.93	2.383	2.726
Count, n	362	362	362	362	362
Jarque Bera Test	2.798	1.857	0.787	4.152	3.772

Note: SUCFO is standardised unexpected cash flow from operation, and SUE is standardised unexpected earnings. c^2 critical for two degree of freedom is 5.99 at 0.05 significant level.

with mismatched cash receipts and disbursements over short measurement interval. Similarly, the Jarque-Bera normality tests show that all distributions are normally distributed.

Individual Company Level: Table 3 shows the regression results of the incremental information content of earnings and cash flows. The first regression is between the cumulative abnormal returns as dependent variable and the standardized unexpected earnings as independent variable for annual returns window.

Table 3 shows the regression results of the incremental information content of earnings and cash flows for annual returns windows. Regression (1) shows that the coefficient for SUE is 8.62 with t-statistics of 6.21, which is significantly different from zero at 0.001 levels. The regression (2) is between the CAR (one year) and the SUCFO directly. The coefficient in regression (2) for SUCFO is 1.22 (t=0.98) not significantly different from zero. This implies that cash flows do not explain the abnormal returns in annual analysis.

Regression (3) shows the results by adding the cash flows as other independent variables to regression (1). The coefficients for SUE and SUCFO are 8.61 and -0.05 with t-statistics of 6.11 and 0.04 respectively. The coefficient for SUE is again significant at 0.001 level, whereas the coefficient for the cash flows is not significant. Therefore, the null hypothesis is not rejected in this annual window tests. There is no incremental information content for cash flows from operation beyond unexpected earnings, and earnings alone explained the abnormal returns in this regression. The R-squared value for regression (3) is 9.18 percent compared to 9.68 percent in regression (1) and 0.27 percent in regression (2). The findings indicate no increase in the explanatory power with the additional cash flow variable.

Table 3   Regression Results between CAR, SUE, and SUCFO at Company Level

The regression results are from linear ordinary least square regression at individual company level. The dependent variables are represented by on-event 3 days returns, 51 days CAR, and 1 year CAR. The independent variables are represented by three different durations of unexpected earnings and cash flows standardised by their respective annual standard deviation. The sample consists of 362 observations for returns window of one and less than one year.

$$CAR_{it} = \delta_0 + \delta_1 * SUE_{it} + e_{it} \qquad (1), (4), (7),$$

$$CAR_{it} = \delta_0 + \delta_2 * SUCFO_{it} + e_{it} \qquad (2), (5), (8)$$

$$CAR_{it} = \delta_0 + \delta_1 * SUE_{it} + \delta_2 * SUCFO_{it} + e_{it} \qquad (3), (6), (9)$$

Variables	CAR (1 yr)) : n=362			CAR (-50, +1) : n=362			CAR(-1,+1) : n=362		
	1	2	3	4	5	6	7	8	9
Constant	-2.97	-0.89	-2.98	-0.62	0.34	-0.59	-0.14	-0.03	-0.20
	(-2.31*)	(-0.68)	(-2.30*)	(-1.07)	(0.58)	(-1.01)	(-0.72)	(-0.16)	(-1.06)
SUE	8.62		8.61	3.77		3.82	0.81		0.70
	(6.21***)		(6.11***)	(6.03***)		(6.04***)	(3.96***)		(3.41***)
SUCFO		1.22	0.05		0.23	-0.29		0.70	0.61
		(0.98)	(0.04)		(0.41)	(-0.54)		(4.01***)	(3.48***)
Adj-R^2	0.0968	0.0027	0.0918	0.0918	0.0005	0.0875	0.0417	0.0429	0.0677
F-test	19.45***	0.63	12.94***	18.43***	0.29	12.36***	7.92***	8.16***	9.47***
B-P-G	0.290	3.020	1.892	0.140	0.124	0.252	0.000	0.485	0.406
χ^2critical	3.85	3.85	5.99	3.85	3.85	5.85	3.85	3.85	5.99

Note: SUE is a standardised unexpected earnings, SUCFO is standardised unexpected cash flow from operations, B-P-G is Bruesh-Pagan-Godfrey test. Value in bracket is t-value, significant at (*) 0.05, (**) 0.01, (***) 0.001 Level.

The regression (4), (5) and (6) are using a medium length of returns windows over 50 days prior to and 1 day after disclosure of earnings for cumulating abnormal returns. The regression (4) is between the CAR as dependent variable and SUE as independent variable. The results show that the coefficient for SUE is 3.77 (t=6.03), which is significantly different from zero at 0.001 level. The coefficient for SUCFO is 0.23 (t=0.41) in regression (5), not significant at any acceptable level. The coefficients for SUE and SUCFO for a multivariate regression in model (6) are 3.82 (t=6.04) and –0.29 (–0.54) respectively. These results are very similar to regressions (1), (2) and (3) while using the annual return window interval. Therefore the length of the window has little influence on these regression results.

The regression (7), (8) and (9) are for very short windows on abnormal returns. The three-day abnormal returns rely strongly on the belief that the market adjusts to the earnings announcement immediately. There is no leakage of information prior to the announcement, and there is no post announcement drift or reversal (Cheng, Ariff and Shamsher, 2001)

The coefficient for SUE in regression (7) is 0.81 (t=3.96), significantly different from zero at 0.001 level, a result consistent with prior studies. The coefficient for SUCFO in regression (8) is 0.70 (t=4.01) significant at 0.001 level. The coefficients for SUE and SUCFO are 0.70 (t=3.41) and 0.61 (t=3.48) respectively for regression (9). The coefficients for SUE is significant at 0.001 levels, the coefficient for SUCFO is significant at 0.01 level. All the coefficients are positive and significant. Therefore the null hypothesis is rejected. These findings suggest that there are incremental information values for both earnings and cash flows from operations when tested in the short window. This finding is consistent with Dechow (1994) and Cotter (1996), who which did the tests over short returns intervals.

Portfolio Level: Table 4 shows the regression results at portfolio level. Grouping the observations using the dependent variable led to portfolios. The lowest four percent of the cumulative abnormal returns formed the first portfolio, and the next subsequent group formed the next portfolio and so on.

In Table 4, Regressions (1), (2) and (3) show results from annual interval. All the coefficients for SUE are positive and significant, whereas the coefficients for SUCFO are not significant at all. These findings confirm that the role of earnings in share valuation. The cash flows have no incremental information content beyond earnings. Specifically in regression (2), the coefficient for SUCFO is not significant and the R-squared value is only 2.72 percent. The cash flows explained less than 3 percent of the abnormal returns. The next results are from regressions (4), (5) and (6) for medium length of returns over -50 days and +1 day. The results are similar. All SUEs coefficients are significant, whereas the SUCFO's coefficients are not significant. The adjusted R-squared values for earnings are between 55.76 to 57.9 percent and those for cash flows are between 2.72 to 0.29 percent. These findings suggest that investor do not value share prices by using cash flows.

In regression (7), (8) and (9) using short return window of 3 days for analysis, we find coefficients for earnings are again significant in all regressions. The coefficients for SUCFO are mixed. The coefficient for SUCFO is significant when it is regressed alone with abnormal returns (i.e. 0.0562, t=3.42). The coefficients of SUCFO are not significant at 0.05 level when it is regressed together with the unexpected earnings variable in multiple regression (however, it is significant at 0.1 level). These findings indicate the lesser significance of cash flow information content compared with the greater impact from unexpected earnings. This is inconsistent with the results documented on individual company tests. The portfolio methodology diversifies away the error term/transitory earnings in the earnings

Table 4   Regression Results Between CAR, SUE and SUCFO at Portfolio Level

The regression results are from linear ordinary least square regression at 25 portfolios level. The dependent variables are represented by on-event 3 days returns, 51 days CAR, and 1 year CAR,. The independent variables are represented by three different durations of unexpected earnings and cash flows standardised by their respective annual standard deviation. The sample consists of 25 portfolios formed from 362 observations for returns window of one and less than one year.

$$CAR_{it} = \delta_0 + \delta_1 {}^* SUE_{it} + e_{it} \qquad\qquad (1), (4), (7)$$

$$CAR_{it} = \delta_0 + \delta_2 {}^* SUCFO_{it} + e_{it} \qquad\qquad (2), (5), (8),$$

$$CAR_{it} = \delta_0 + \delta_1 {}^* SUE_{it} + \delta_2 {}^* SUCFO_{it} + e_{it} \qquad\qquad (3), (6), (9),$$

Variables	CAR (1 yr)) : n=362			CAR (-50, +1) : n=362			CAR(-1,+1) : n=362		
	1	2	3	4	5	6	7	8	9
Constant	-13.68	-2.20	-13.56	-5.84	0.37	-5.25	-2.41	-0.71	-2.35
	(-3.24**)	(-0.38)	(-3.01**)	(-3.10**)	(0.14)	(-2.78*)	(-3.20**)	(-1.11)	(-3.33**)
SUE	50.17		50.39	23.91		25.83	9.56		7.50
	(5.38***)		(5.14***)	(5.62***)		(5.91***)	(4.70***)		(3.49**)
SUCFO		14.23	-1.20		1.94	-7.22		5.62	3.16
		(0.80)	(0.09)		(0.14)	(-1.43)		(3.42**)	(2.07)
Adj-R^2	0.5576	0.0272	0.5176	0.5790	0.0029	0.5799	0.4897	0.3078	0.5342
F-test	14.49***	0.321	9.23***	15.92***	0.076	11.78***	11.08***	5.88***	9.88***
B-P-G	0.045	1.88	1.403	1.050	0.186	2.615	0.150	0.417	0.615
χ^2critical	3..85	3.85	5.99	3.85	3.85	5.99	3.85	3.85	5.99

Note: SUE is a standardised unexpected earnings, SUCFO is standardised unexpected cash flow from operations, B-P-G is Bruesh-Pagan-Godfrey test. Value in bracket is t-value, significant at (*) 0.05, (**) 0.01, (***) 0.001 Level.

measurement. Therefore cash flows have no more incremental value at portfolio levels.

The R-squared values in portfolio analysis increased to 50 to 60 percent for regression (1) and (3). The regression (2) between SUCFO and short window CAR indicates a 31 percent R-squared value. Therefore, SUCFO explained 31 percent of the abnormal returns at portfolio level in the annual return window. Though the magnitude is low the results are significant, implying support for the relevance of information content in cash flows.

In summary, investors use earnings and cash flows for share valuation on the long term windows for both the individual and portfolio tests, consistent with many long return studies (Cotter 1996). In portfolio tests, earnings are definitely more

superior in valuing share prices in the long, medium and short terms. However, cash flows are less significant than earnings in explaining abnormal returns: this is consistent with the literature.

A Breush-Pagan-Godfrey test (Griffiths, Hill and Judge (1993)) showed that none of the regression is rejected on account of heteroscedasticity. By using pooled data, the issue of autocorrelation was significantly mitigated. The conditional index between SUE and SUCFO is 1.00 and 1.36 respectively[5], implying no serious problem of multicollinearity; and therefore the coefficients obtained in the regressions are best linear unbiased estimates (BLUEs).[6]

CONCLUSIONS

In 1996, the Malaysian Institute of Accountant (MIA), the Malaysia official standard-setting body, issued a mandatory cash flow standard IAS 7 (revised). All public companies were required to comply with the new accounting standard by January 1996. The accounting standard covering the fund flow statement which was already in practice for several years before was simultaneously withdrawn. With the release of IAS 7 (revised), Malaysia joined the list of developed countries that adopted international accounting standards. Hence, mandatory disclosures of cash flow information have been made almost for 15 years when this study was conducted. Prior to these rules, voluntary disclosures have been in practice for a number of years, thus making a study of this phenomenon relevant for both accounting profession and for investors.

The findings show that the earnings explained the stock returns significantly more at company and portfolio levels over annual, medium *and* short returns windows interval. The findings on the incremental information content of cash flow are at best inconclusive. The cash flows explained some of the abnormal returns in the short window. The investors appear merely to be looking at the earnings *per se* when annual and medium interval returns are considered. However, on the short window, the investors value share prices based on earnings *and* cash flow information. In the short window tests, the investors value shares based on earnings and cash flows, although findings are weakly significant and more in favor of earnings. Though the findings confirm weak information content of cash flows announcements beyond accounting earnings, this still implies that Malaysian investors do consider cash flows from operations as value relevant information. But the evidence that share prices respond differently to unexpected cash flows from operations after controlling for unexpected earnings data is only weakly

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[5] Gujarati (1995) specifies that conditional index exceeding 30 indicates severe multicollinearity.
[6] Analyses by using two stage regression to orthogonalised the SUE and SUCFO was performed. The results are similar to the direct regression, indicates no multicollinearity.

supported. However, at portfolio levels, cash flows have no incremental information content beyond unexpected earnings. This result is consistent with Cheng, Chao and Schaefer (1996).

Given that cash flows are revealed to the market together as accounting information, the justification for cash flow accounting from an information content perspective must be based on a differential market response to the cash flow and earnings. Therefore, we can conclude that earnings have incremental information content beyond cash flows on the announcement of earnings in the Malaysian market. Though cash flows appear to have no information content in the annual and medium windows, it does have information content in the short window with incremental information content beyond earnings, implying it is relevant value information but investors are more comfortable with earnings announcements for share price valuation.

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